

TIME UTILIZATION AND PRODUCTIVITY OF HEALTH MANPOWER

*(a case study of a
Karnataka Primary Health Centre)*

BASU GHOSH



INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

SEPTEMBER 1991

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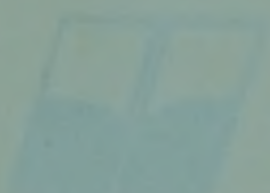
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BASU GHOSH

WITH COMPLIMENTS FROM

Dr. J. C. BHATIA
Chairman (Research & Publications)
Indian Institute of Management
Bannerghatta Road,
Bangalore-560 076, India



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COMMUNITY HEALTH CELL
326, V Main, I Block
Koramangala
Bangalore-560034
India

Dr. J. C. BHATTIA
Chairman (Research & Publications)
Indian Institute of Management
Bangalore
Bangalore-560 076, India

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Preface

This publication is the outcome of a research study commissioned by the WHO South East Asia Regional Office, New Delhi. The research topic was recommended by the Consultative Meeting on Health Manpower Research held in the WHO Regional Office, New Delhi from 9 to 13 January 1989, in which the author also participated. It has been undertaken as part of an integrated research programme aimed at promoting decision-linked research in the field of human resources for health. We are grateful to Dr. U. Ko Ko, Regional Director, WHO-SEARO for inviting us to undertake the study, and extending financial support for it. We wish to thank Dr. Paul C.Y. Chen, Regional Adviser - HRH and Dr. M.M. Kapur, Regional Asdviser - Medical Research, in particular, for their active collaboration.

We wish to express our sincere thanks to the Director of Health & Family Welfare Services, Government of Karnataka for their willing cooperation and for helping us to complete the study successfully. We have no doubt that the State authorities will do everything possible to implement the recommendations emerging from the study.

The major burden of undertaking the field research was ably undertaken by Ms. V. Vijayalakshmi, who has also diligently supported the author at all stages of the study.

We are grateful to Dr. K.R.S. Murthy, Professor and Director, IIM-Bangalore for his constant encouragement and support, and to Dr. Jagdish C Bhatia, Chairperson-Research & Publications, IIM-Bangalore for facilitating our research in numerous ways.

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Dr. Basu Ghosh

Bangalore
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I. INTRODUCTION

Health services being labour intensive the effective delivery of services depends on the availability and efficient utilisation of the manpower resources. A Primary Health Centre, usually the lowest level of health unit manned by doctors in India, is intended to provide integrated health care, both curative and preventive, and to serve as a focal point. Each Primary Health Centre (PHC) functions with a minimum of three sub-centres and a maximum of 8/9 sub-centres. To achieve the objectives of Health for all by the year 2000, through Primary Health Care approach, PHC staff are expected to work at maximum efficiency.

Rapid population growth, rising social expectations and limited social and economic resources, have all contributed to a greater recognition of the need to utilise the existing personnel and facilities in the health service system more effectively and efficiently.

Recognizing this need, as a first step, a study on 'Time Utilization and Productivity' has been undertaken in one PHC in Bangalore District of Karnataka. The main purpose of this study is to assess the time utilization pattern and resultant productivity, with the existing facilities, and suggest realistic measures which can facilitate the successful implementation of the programmes of the Primary Health Centres.

Objectives of the Study

The main objectives of this study are:

- to measure time-utilization of the medical officers and the staff of the PHC,
- to measure productivity of the doctors and technical staff, and
- to understand the factors associated with varying levels of time utilization and manpower productivity.

The present study examines the activities of the health team at peripheral level in relation to time utilization.

Review of Related Research

Though primary health centres have been functioning since 1956 in India, very little recent information is available on the pattern of utilization of the health worker's time. A brief review of available research information from selected studies is presented below:

1. A study of PHC staff Time Utilization pattern was undertaken in a PHC in Uttar Pradesh by SK Satpathy et.al. (1988). This study included only technical staff (excluded drivers, sweepers etc.) and the technique followed was a non-participant observation of the staff for several days. From this study, it was found that the non-productive time of such staff was as high as 62%, Service time accounted for 27%, and travel accounted for 11%.

2. A study on 'Cost Analysis of PHCs' by M. Kataria and O.P. Srivastava (NIHFW, 1986) included the analysis of allocation of service time at PHC and sub-centre levels. The method used was observation (for field work) and work sampling (at PHC). Besides these two techniques, 'Delphi technique' was also used for supplementing the information collected through the observations. Three districts from two states (M.P. and U.P.) were selected; one PHC per district was selected. Thus 3 PHCs from each state were selected and 12 sub-centres (2 from each selected PHC) were selected. The major findings of the study were:

- 50% of the activity time was spent on travelling and unproductive activities;

7% of sub-centre

- Of the other 50% of productive time, ^{ie 10% of total time} 1/5th was devoted to 'Direct services', the major activity being family planning followed by MCH services (by female workers) and control of communicable diseases (by male worker);

- At PHC, direct services accounted for 47% (UP) and 49% (MP); supportive services accounted for 8% (UP) and 11% (MP); time spent on travel was 22% (UP) and 20% (MP). Thus only 55 - 60% of total activity time was spent productively.

3. 'The Functional Analysis of Health Needs and Services', a detailed study on the development of a methodology for the assessment of health needs and services in functional terms

(1976) could be said to be one of the first major attempt at an assessment of health needs and services (of primary health centres) in functional terms. The study, conducted over several years (1961-66 and 1965-68) at India and Turkey, was funded and coordinated by the Johns Hopkins University. The methodological development proceeded through three distinct stages:

1st Stage: During 1961-66, the Rural Health Research Centre, established in Punjab (India) by the Johns Hopkins University, maintained affiliations with seven Indian Medical Colleges in a study of rural internship programmes. At about the same time, a national health manpower study was conducted in Turkey under the direction of a faculty member from the Johns Hopkins University.

2nd Stage: A feasibility study was conducted in selected teaching health centres in Turkey and India during 1965-68. The Indian study started during 1965 at Punjab and Kerala and at Turkey, the field work began in mid 1966, based in rural villages accessible to Ankara.

3rd Stage: Definitive stage of the functional analysis project, which focussed on regular group health centre and was carried out from three project sites in Turkey and in the states of Punjab and Mysore in India.

This research study was developed to produce a hard core of basic data and selected sets of supportive information. The core studies contained three elements viz. household surveys,

work sampling of health centre activities and analysis of patient flow through the health centre. The major findings from the analysis of work sampling in India as regards to time utilization are:

- Only 1/6 of the total health centre effort went into direct service in Punjab, compared to 1/4 in Mysore. Further, in Punjab, supporting activities (33.3%) consumed more than twice as much time than service efforts (15.5%).
- More time was devoted in Punjab to the maintenance of records and preparation of reports than to the provision of services (16.3%), whereas in Mysore a mere 1/3 of the activity time was devoted to records and reports.

4. Pattern of Health Activity Study (1986) by J.T. Lake dealt with the activity profiles of the personnel of Edna Manly Health Centre, Kingston, Jamaica. The personnel were observed. 'Snapshot' observation method was used. In this, the investigators recorded the first activity observed for each of the personnel. A code list was prepared for five areas. Each area of activity was evaluated according to the skill, training and responsibility level. The categories studied were administrative, professional, clerical/technical and educational levels. The main findings were:

- * Administrative time spent by the staff on an average was 1.4%. The nurses were found to spend as much as 3.1% followed by the pharmacists with 2.4%.

- * Total time devoted to professional activity was 39.2%. The doctors spent the highest with 62% followed by the nurses (60%) and dentists (59.2%).
- * About 18% of total time was spent on clerical activities, the highest time being spent on this activity by clerks (76%).
- * 12% of all the staffs' time was devoted to technical activities. The dental assistant spent most of the time (66.1%) on technical activities.
- * About 29% of the staff time was spent on educational activities (imparting health education).

Methodology and Scope

In consultation with the Directorate of Health and Family Welfare Services, Government of Karnataka, Primary Health Centre, Satyapura* (Bangalore urban) was chosen as the PHC for study. On visiting the PHC and interacting with the staff, it was found that this PHC was one of the old pattern PHCs with a population coverage of over 2,00,000, four Primary Health Units (PHUs) and 32 sub-centres. As the new PHCs are expected, according to GOI pattern, to be smaller (covering 30,000 population), it was decided to choose one of

* A fictitious name has been used to preserve anonymity of the PHC and its staff.

the PHUs and study its staff time utilization pattern. After a preliminary survey, PHU Kunj (upgraded as PHC since July, 1990), was chosen as it had more rural structures than the others.

Health centre activities may be analyzed either by studying routine records or by self-logging or by continuous observations for a specified period of time. In this study, the techniques used for assessing the staff time utilization pattern were:

- a. Work sampling and non-participant observation by a research investigator posted in the PHC.
- b. Continuous observation of all the field staff from the time they start the work till completion during the day.

At PHC, work sampling was resorted to as it is a simple method of obtaining representative minimally biased information in a form easily quantified. Good rapport was established with the personnel being observed and work sampling observations were done at random after deciding the number of rounds to be covered assuming on an average about an hour's interval. Work sampling at PHC was done three days in a week; the other three days of the week were devoted to observation of the two senior health assistants.

Continuous observation of the activities of all the junior health assistants was the other technique used. An observer trailed each health worker to observe the time utilization pattern for the whole day. The field level staff were observed for a maximum period of 45 days. The observation of the activities of male workers ranged from 12 days to 45 days, while for female workers the no. of days observed, ranged from 16 days to 40 days.

On the days when no work sampling was done at PHC, either of the senior health assistants was accompanied by the research investigator during field visits. Because of the evasive attitude of the Senior Health Assistant (Male), he could be observed only for 7 days while the planned observation was for 15 days. Senior Health Assistant (Female) was observed for 13 days.

The final stage of data collection was to gain some knowledge about the motivational and other attitudinal aspects of these technical staff. An interview schedule was designed for each category, namely:

Medical Officer, Senior Health Assistants, Junior Health Assistants.

Information required about the PHC, its staffing pattern and available infrastructure, have been elicited using a pre-designed proforma on the PHC's profile.

Using secondary as well as primary information and with personal interaction with each of the staff, an assessment of the staff time utilization pattern and productivity has been made, constraints mentioned and relevant measures for a greater achievement of the PHC's programme. have been suggested.

This is an indepth study of only one Primary Health Centre. The personnel included in the study are the medical officers, senior health assistants, junior health assistants, pharmacist and para-medical worker. This study is confined to an assessment of the staff time utilization patterns and productivity. The study was undertaken during May - July 1991.

II. A Profile of Kunj PHC

Primary Health Centre, Kunj was established during 1954 as a Primary Health Unit (PHU). Since its establishment, it had been one of the PHUs within the jurisdiction of the Satyapura Primary Health Centre. It was upgraded as a Primary Health Centre (PHC) in July 1990.

Kunj PHC is about 16 kms from the Bangalore city. This PHC functions with nine sub-centres and 43 villages covering a population of 64,000 (as of March 1990). The approximate area of the PHC is 400 m x 200 m. The distance of each of the sub-centres from the PHC HQ ranges from 2 kms to 30 kms. Within each sub-centre, the distance from one village to another ranges from 1 km - 4 kms in certain cases and 2 kms - 6 kms in some others.

Accommodation Particulars

Though the PHC site area is large, its built-in area is only about 2/3 of the site area. The structure includes a hall, 5 rooms and two in-patient wards. The hall serves as the out-patient ward, where the Administrative Medical Officer (AMO) examines the patients. The room adjacent to the right side of the hall is being used as 'Injection room'. The room to the left of the hall is supposed to be 'Dispensary' where the pharmacist is expected to dispense medicines/drugs as per doctor's prescriptions.

On the other wing are two rooms and an inpatient ward. The first room is occupied by the Lady Medical Officer (LMO) who examines the patients there. The room adjacent to this room is the rest room as well as the staff room. Another inpatient ward is built opposite the room of the Lady Medical Officer.

Though two rooms with six beds each are provided for inpatients, due to lack of residential quarters and basic facilities, admission of inpatients is a rare phenomenon. Only emergency delivery cases and asthma cases are admitted for 2-3 days. Patients with severe weakness are admitted just for the day (working hours) to administer glucose drips and later discharged the same evening.

Organisational Structure of PHC

The PHC functions with a Medical Officer of Health or Administrative Medical Officer as the chief of the PHC, and a Lady Medical Officer (LMO) as the second medical officer. A Pharmacist, a Para-Medical Worker and two Senior Health Assistants (a male and a female) function under the Medical Officer's supervision. Seven Male Junior Health Assistants are under the supervision of the Senior Health Assistant (Male) and seven Female Junior Health Assistants work under the supervision of the Senior Health Assistant (Female). And, three staff members in the category of 'Group D' (class IV)

form the lowest staff category of this PHC. In the sub-centres, trained dais (TBAs), who are not government employees, help the Junior Health Assistant (Female) when required.

Thus, the PHC staff comprise of:

- a) two Medical Officers,
- b) a Pharmacist,
- c) a Para-Medical worker,
- d) a Senior Health Assistant (Male),
- e) a Senior Health Assistant (Female),
- f) seven Junior Health Assistants (Male) and
seven Junior Health Assistants (Female), and
- g) three Staff of the Group 'D' category.

(Annexure 1 shows the Organizational Chart)

An Occupational Profile of the Staff

The Administrative Medical Officer (AMO), 47 years' old, was appointed in October 1978 and posted to this PHC in April, 1990. Besides his MBBS qualification, he has a diploma in ENT. He attended a multi-purpose worker training course of one month conducted by the Directorate of Health and Family Welfare, Government of Karnataka in 1987.

The Lady Medical Officer, 42 years' old, was appointed in August 1972. She is a qualified paediatrician. She was posted to this PHC in 1990. This is her first PHC assignment in her nearly 20 years' service.

The Pharmacist, 25 years' old, was appointed during September 1986 and posted to this PHC during 1988. His educational qualification is SSLC and D. Pharma.

The Para-Medical Worker, 38 years' old, is a B.Sc. He was appointed in January 1973. In 1973-74, he underwent 'Leprosy treatment' training (6 months' duration). He was transferred to this PHC in May 1990.

The Senior Health Assistant (F), more popularly known as the LHV (Lady Health Visitor), is 44 years' old. Her educational qualification is SSLC. She was appointed during April 1970, after being trained for the job. She underwent a 10 months' Diploma course in Public Health Nursing in 1980-81. She was posted to this PHC three years ago.

The Senior Health Assistant (M), 52 years' old, has studied upto SSLC. He was appointed as a Junior Health Inspector during 1962. He was promoted to his present position in 1983. He underwent the Senior Health Assistant's training (1 year duration) during 1972. He was also trained in 1977 in Malaria Surveillance work.

Of the seven male Junior Health Assistants, four were recruited during the sixties, and the other three during the seventies. A profile of these workers is given in Table 1(A).

Table 1(A) A Profile of Junior Health Assistants (Male)

Male Health Assistants Sl.No.	Age (years)	Education	Training as Sr. H.Asst.
1	47	PUC	1976-77
2	45	SSLC	-
3	41	PUC	1984-85
4	41	SSLC	Year not stated
5	45	SSLC	1985-86
6	44	PUC	1985-86
7	57	SSLC	Year not stated

NOTE: PUC: Pre-University Course (11 or 12 years).

SSLC : Secondary School Leaving Certificate
(10 years).

All these workers have undergone the multi-purpose health workers' training which is of three months duration.

Of the seven female Junior Health Assistants, two were appointed during late sixties, four during seventies and one during 1983. The details of their educational qualification and training status are given in Table 1(B).

Table 1(B) : A Profile of Junior Health Assistants
(Female)

Female Health Assistant Sl.No	Age (years)	Education	Year of recruitment	Training & duration
1	36	SSLC	1979	Family Planning during '86 (10 days)
2	36	SSLC	1975	DO
3	52	SSLC	1969	MPW (3 months)
4	45	SSLC	1973	1989 (1 year of Sr. H.A & MPW Training)
5	51	SSLC	1968	MPW Training
6	38	SSLC (failed)	1978	DO
7	34	PUC	1983	DO

The three Group 'D' staff, are all aged about 40 years. Two of them had studied upto VI std. and the other one upto III std.

Other particulars

The supply of medicines to the PHC is annual and is obtained from the Government Medical Stores through an indent. Number of out-patients treated in a year ranges from 10,900 to 16,200. Family Planning Camps (Laparoscopic) are

conducted by Kunj PHC every month at a private company's Dispensary. Sometimes Eye camps are also conducted with the help of voluntary organizations.

In the vicinity of the PHC area (inclusive of its subcentres) there are 24 private clinics functioning. Besides, there are 3-4 nursing homes near the PHC/Subcentre area. (The distance from PHC/Subcentre to a nursing home ranges from 3 kms to 6 kms). See Table-2.

Table 2 : Particulars about Private Practitioners in the PHC Area

PHC/S.C. area Sl.No.	System					Total
	Ayurvedic (M) (F)		Allopathic (M) (F)		Not stated (M)	
1	-	1	-	-	-	1
2	-	1	4	-	1	6
3	-	-	3	1	-	4
4	3	-	2	-	-	5
5	2	-	-	-	-	2
6	1	-	1	-	-	2
7	-	-	1	-	-	1
8	2	-	-	-	-	2
9	-	-	-	-	1	1
Total	8	2	11	1	2	24

Source: PHC Satyapura

iii. Analysis of Time Utilization

1. Doctors

The PHC team is led by a Medical Officer of Health. Generally, a lady medical officer acts as the second medical officer. While the role of the Medical Officer of Health (also called Administrative Medical Officer, AMO) includes the management of the PHC (all administrative aspects) besides attending to patients, the function of a Lady Medical Officer (LMO) is basically attending to patients alone. Only when the AMO is on leave, or is away on official work, the LMO acts as the Officer In-charge of the PHC.

In this particular PHC there are two doctors: an Administrative Medical Officer (AMO) and a Lady Medical Officer (LMO). To assess the work pattern, as also the time utilization of these two medical officers, work sampling method was adopted. Work sampling was done for about 3 days a week. During May - July (study period), 30 days of work sampling was done. During these 30 days, the AMO was on leave for a week, including 3 days of state government holidays. LMO was on earned leave for a full month (June) and was on casual leave for 6 days. Thus, the number of work sampling rounds for 27 days for AMO was 83; the number of work sampling rounds for LMO for 10 days was 23.

An analysis of the time utilization as well as work pattern of these two medical officers reveals that:

- LMO spends most of her time in attending to patients, while AMO's time utilization includes interaction with the pharmacist and other PHC staff, general administration, interaction with policemen, medical representatives etc. besides attending to patients.
- While for about 29% of the time (rounds) the AMO was found to be attending to patients; for about 16% of the time he was away on personal work, and in 28% of the rounds his work could not be observed as he was yet to arrive at the PHC.
- The LMO was found to be attending to patients for 61% of the time, interacting with PHC staff for about 9% of the time, and in 13% of the rounds she could not be observed as she was yet to arrive at the PHC. (See Table. 3).

During the study period the LMO was found to spend 74% (of her time in productive activity, while the AMO was spending only 46% of his time in productive activity (See Table 3). In the 10 common days, when both the doctors had been observed, the AMO was found to be attending to patients for 62.5% of the time (he was engaged in productive activity), while the LMO was attending to patients for as much as 82% (of her productive time). (See Table 4). This may

Table 1.

Medical Officer's Time Utilization Pattern

Sl. No.	Particulars of activity	AMO		LMO	
		No. of rounds	%	No. of rounds	%
1.	Attending to outpatients	24	28.9	14	61.0
2.	Absent	23	27.7	3	13.0
3.	Away on official work	2	2.4	1	4.3
4.	Away on personal work	13	15.8	1	4.3
5.	Interacting				
	a) with staff	4	4.8	2	8.8
	b) Medical representatives	2	2.4	-	-
	c) Police	2	2.4	-	-
	d) General visitors	2	2.4	-	-
	e) relative of a patient	1	1.2	-	-
6.	Drug collection/stock checking	1	1.2	1	4.3
7.	Idle	2	2.4	-	-
8.	Socialization/coffee	3	3.6	1	4.3
9.	Certificate work	3	3.6	-	-
10.	Doctor's rounds at PHC	1	1.2	-	-
Rounds covered		83	100.0	23	100.0
Work sampling days		27	-	10	-

Table 4

Productive activity - A comparison

Sl. No.	Activity	AMO		LMO	
		No. of rounds	%	No. of rounds	%
1.	Attending to patients	5	62.5	14	82.4
2.	Interaction with staff	2	25.0	2	11.8
3.	Field visit	1	12.5	-	-
4.	Stock checking of drug position	-	-	1	5.8
Total		8	100.0	17	100.0

Note: No. of rounds here refers to those rounds in which a Doctor was found to be engaged in some productive activity.

be attributed to the fact that the AMO has additional responsibility of administrative work of PHC, thus he is able to spend a lower percent of time on patients than LMO. Besides this known factor, the other factor might well be that the LMO is probably much faster, firmer and systematic in handling the patients than the AMO. It has been observed that patients move in a queue system to consult the LMO, while a few patients always crowd around the AMO's table.

During the period of the study, it has also been observed that:

- 1) The AMO usually arrives at the PHC only after 10.00 am whereas the official working hours are : 9.00 am - 1.00 pm and 2.00 pm - 4.00 pm.
2. After arriving at the PHC, he would collect the drugs from the store room, interact with the Pharmacist/Para-Medical Worker (if they have arrived by then) and start attending to patients 15-20 minutes after his arrival. Patients from various villages (under the jurisdiction of this PHC) were generally found to be waiting from as early as 8.00 am.
3. The AMO is never firm with his patients; he generally handles 5-6 patients at a time and hence the crowd of 8-10 patients/relatives of the patients near the table. He would test one person, ask him/her to wait till he dispenses drugs, send another patient to the injection room and call another

patient for check up. Because of this unorganized procedure a work which normally requires 10-15 minutes is prolonged for more than 30 minutes.

4. The AMO seldom returns after lunch. Other days, he returns after nearly 40-60 minutes. In his absence, Para-Medical Worker or Pharmacist dispenses the drugs to patients.

5. The LMO generally arrives between 9.45 - 10.15 am. Once arrived, she hardly takes 5 minutes to collect the drugs and then immediately attends to the patients. This activity is normally continued till 1.00 pm. After her lunch break (lasting for about 30-35 minutes) she again attends to patients. She generally leaves by 3.30 - 4.00 pm. She appears to be very systematic in her work.

Though the duration of working hours of the PHC is 6 hours (9.00 - 1.00 pm and 2.00 - 4.00 pm) the AMO is at the PHC generally for 4 hours only (10.30 am - 1.30 pm and 2.15 - 3.30 pm). The Lady Medical Officer also arrives at about 9.45 - 10.00 am but is at the PHC till 3.30/3.45 pm generally. Thus, she generally works for 4 1/2 - 5 hrs.

An analysis of productivity of doctors in relation to time utilization (see Table 5) reveals that:

- the estimated time spent on outpatient care by AMO was 1.7 hrs and that by LMO was 3.7 hrs.

- the AMO, on an average attended to 21 patients per day while the LMO on an average attended to 64 patients per day.
- the productivity, i.e. no. of outpatients attended to per hour engaged in this activity, worked out to be 12.1 per hour for the AMO and 17.5 patients per hour for LMO.

Table 5

Productivity of Doctor's Time
(Outpatient Care)

Sl. No.	Particulars	Category	
		AMO	LMO
1.	No. of days observed	27	10
2.	Percent time spent on outpatient care as observed	29	61
3.	No. of outpatients attended to on observed days	569	644
4.	Estimated time spent on out-patient care (per day)*	1.74 hrs	3.66 hrs
5.	Average no. of outpatients attended per day	21	64
6.	Productivity (No. of out-patients attended to per Hr)+	12.1	17.5
	Estimated time spent per patient (minutes)	5	3.4

*	Derived by multiplying the percent of time found spent on attending to outpatients (during work-sampling) by 6 hours i.e the official working hours.		
+	Derived by dividing the average no. of outpatients attended to per day in the estimated time spent on attending to outpatients.		

2. Analysis of Time Utilization - Senior Health Assistants

At Primary Health Centre Kunj, two Senior Health Assistants function - one male and another female. The major function of these Senior Health Assistants is to supervise the performance of Junior Health Assistants. This involves motivating the Jr. Health Assistants, and also a) helping them to solve the field problems; b) suggesting ways and means to improve their performance and c) reviewing their diary registers and reports.

The Senior Health Assistant(M) supervises the seven Junior Health Assistants(M) and the Senior Health Assistant(F) supervises the seven Junior Health Assistants(F).

The Sr. HA(F) was observed for 13 days and observation schedules were given to her for 'self logging' for 15 days. The Sr. HA(M), with great difficulty could be observed for only 7 days and schedules for self-logging were given to him for 10 days. He returned only 4 of the schedules duly filled in. Thus a fairly detailed analysis of time utilization is possible only in the case of Sr. HA(F).

Besides observations, these two Sr. HAs were contacted individually for gaining some knowledge about their attitudes and motivational aspects of the implementation of PHC programme by administering an interview schedule.

An analysis of the time utilization pattern is presented below:

(i) Senior Health Assistant (Female)

The Sr. HA(F) was appointed as Lady Health Visitor (LHV) during 1970. She was transferred to Kunj PHC during 1988.

An analysis of the observation study of her work at PHC, as well as in the field, suggests that she is an active, committed worker. Even on the days when she happened to reach the PHC late (i.e. after 9.30 am), she managed to complete her scheduled field work. While on field duty, she generally worked till 2.30 pm. While at PHC, she was found to be working till 4.00 pm. On the days of intensive immunization work at PHC (Thursdays), she would work from 9.30 to 1.00 pm. She would thus work for 5-5 1/2 hrs while at PHC, while she was found to spend about 3 - 4 1/2 hrs on health activities while in the field. This general pattern of time utilization is naturally different on inoculation days (for people living in affected areas), immunization day and the last day of the month (meeting day).

In the 13 days of observation, the time taken for travelling from residence to PHC was 30-35 minutes for two days, and it generally ranged from 40-70 minutes and was 80 minutes on only one day. And, her activity time (except on days of immunization clinic and on the days of meeting) ranged from 2 hrs 20 mts to 5 hrs 30 mts.

Of the total activity time (for each day observed), service time generally accounted for about 53-100% (average 68%). Except on the days of inoculation and immunization at subcentres, time spent on personal activity ranged from 5-20 mts only. While walking (inclusive of travelling) accounted for 8-12% for certain subcentre areas, it accounted for 27-44% for some of the other subcentre villages. In one village walking alone accounted for 77% of the activity time. This village is an interior area. One has to spend at least one hour to reach the village from the bus stop (which is on the main road). Only one bus plies upto the village and that is also very infrequent. Hence, walking from the main road is the only alternative to reach the village. And, within the village, time spent on moving from one area to another area is at least 15 minutes.

The Sr. H.A (F) has been found to concentrate generally on MCH, family planning and immunization. Following is the summary of her mode of supervision as observed:

Sl. Activities
No.

Mode of supervision

1. MCH
Visits homes, enquires for ANC, PNC; and in the houses where ANC's and PNC's are found, enquires about their health, distributes F's tablets to ANC's if necessary, registers ANC/PNC cases not registered by Jr. HA(F).
2. Family Planning
During the house visits advises on sterilization if no. of living children is at least 2-3, and use of contraceptives for those mothers with one child. Interacts with the Jr.HA(F) regarding the family planning cases, no. of eligible couples contacted etc. In case of difficulty in motivating potential clients, the Jr. HA(F) seeks her help.
3. Immunization
During house visits, enquires about immunization of infants and children. Advises those mothers who are found not to have immunized their children. Discusses with the Jr. HA(F) about a particular day to be arranged in the sub-centre for immunization. Also with prior intimation to the school authorities, conducts the immunization for school

children with the help of the Jr. HA(F) assigned to the subcentre.

4. General Makes general enquiries about health, collects blood smears where fever cases are identified and dispenses drugs. She helps the Jr. HA(F) in case of field problems, if any.
-

Besides these, the Sr. H.A. (F) visits those areas (under the jurisdiction of the PHC) where 'gastro-enteritis' cases are reported and/or deaths on account of cholera are reported. With the help of some of the Jr. HAs (Male as well as Female) she inoculates the people of such villages and imparts health education.

Her self recorded observation on time utilization compares closely with the observed pattern (See Table 6). Table 7 gives the break-up of her service time by service components.

Table 6

Time utilization of the Senior Health Assistant (F)

(Minutes)

Time utilization	Observation	Self-logging
Service	179 (68.3)	177 (76.0)
Walking	43 (16.4)	29 (12.4)
Personal	40 (15.3)	27 (11.6)
Total Activity Time	262 (100.0)	233 (100.0)

Note: Figures in braces are percentages.

Table 7

Service Time Utilization of the
Senior Health Assistant (F)

Sl. no.	Service	Average time spent per day			
		Observation		Self-logging	
		Minutes	%	Minutes	%
1.	MCH	8	4.5	24	13.6
2.	Family Planning	11	6.1	13	7.3
3.	Control of communicable diseases	17	9.5	39	22.0
4.	Malaria eradication	17	0.5	2	1.1
5.	Immunization	56	31.3	55	31.1
6.	Vital events	--	--	5	2.8
7.	Preparation at PHC	36	20.1	23	13.0
8.	Record maintenance	12	6.7	--	--

Sl. no.	Service	Average time spent per day			
		Observation		Self-logging	
		Minutes	%	Minutes	%
9.	Interaction				
	a) Jr.H.As	26	14.5	9	5.1
	b) Sr.H.A(M)	8	4.5	--	--
10.	Team activity	4	2.5	7	4.0
	ALL	179	100.0	177	100.0

(ii). Senior Health Assistant (Male)

The Sr. H.A(M) was appointed initially as Jr. health inspector in 1962. He was promoted as Sr. H.A(M) in 1983 and was posted to this PHC in 1987. He is expected to supervise the work of 7 Jr. H.A(M)s.

It has been observed that the Sr. HA (M) arrives at the PHC in the morning (8.00-8.20 am), signs the attendance register and then visits one of the Jr. HA(M) whose residence is very near the PHC (less than 1/2 km). He instructs him about the work to be done (record events, registration, about the areas affected by gastroenteritis cases, cholera cases etc.) and states that he would be visiting a particular sub centre village (generally as per the scheduled tour programme). But it was difficult to ascertain whether he actually visited that village or not, as he was seldom available for observation.

The research investigator used to inform the Sr. HAs on the previous day about one of them being observed the next day, and used to fix the meeting place (PHC or any specific subcentre). While this arrangement worked out well with the Sr. H.A(F), with great difficulty it became possible to observe the activities of the Sr. H.A(M) only on a few days. It was planned to observe this Sr. H.A(M) for 15 days, but he could be observed only for 7 days, as he was evasive.

The Sr. HA (M) would specify a particular place for the meeting, but even after the research investigator waits for him for an hour, he would not arrive at that spot. Even when the investigator reached the subcentre headquarters (as per the Sr. H.A(M)'s advanced tour programme) at 8.30 am he was not available there. As per the Jr. H.A.(F) of that subcentre, also on those days of visits to the subcentre, he would just visit the headquarters, check the attendance register, sign, check the Jr. HA(M)'s diaries, and would leave without any household visit. One particular day, even the Medical Officer of Health of Satyapura PHC, while on field visit, tried to meet the Sr. H.A(M) in accordance with his advanced tour programme, but in vain. Thus, though as per the advance tour programme, he was to visit this subcentre on that day, he had not visited it at all.

He would stay at the PHC beyond 8.30 am only on those days there are cases of gastroenteritis/cholera reported to the PHC. He would generally wait for some Jr. HA (M/F)s to

instruct them about the reported cases and for inoculation work in the affected area. He was found to send the Jr. HAs first on such days and arrive at the affected area an hour or so later. While Jr. HAs and in most of the time Sr HA(F) would be busy inoculating, he would be either listing out the names of the people inoculated or ordering about.

He was found to visit only those areas where gastroenteritis/cholera or any other communicable diseases were reported to the PHC. A supervisory official who had visited the PHC once, also stated that, whenever the Sr. HA(M) was in the field, it was only for 1 1/2-2 hrs and never had he exceeded that. A talk with the Jr. HA(M)s under his supervision, revealed that their senior's field visit was very rare. They would be meeting at the PHC once a month for the monthly meeting.

An analysis of the seven days of observation revealed that his activity time ranged from 230 - 285 mts. On those days his service time ranged from as little as 50% to as much as 70% of the activity time and his personal time ranged from 13 - 50% (See Table 8). And, an analysis of the service time indicated his special preference for control of communicable diseases and family planning. (See Table 9)

Table 8

Average Time Utilization Of Senior Health Assistant(M)		
Activity	Time Minutes	Utilization Percent
Service	165	60.2
Walking	26	9.5
Personal	83	30.3
ALL	274	100.0

No.of days observed-7

Table 9

Service Time Utilization-Senior Health Assistant(M)		
Sl. Service No.	Time Utilization (per day) Minutes Percent	
1. Malaria	4	2.4
2. Control of communicable diseases	44	26.7
3. Interaction- a)Jr.H.As	56	34.0
b)Officials	7	4.2
4. Team activity	7	4.2
5. Family Planning	35	21.2
6. Maintenance of Register	12	7.3
ALL	165	100.0

3. Junior Health Assistants

Junior Health Assistants are the grass-root level health workers of the PHC. This PHC's staff included seven female workers. All the male workers and six of the female workers were observed initially every day. After two weeks of observation, it was found that one of the male health workers was apprehensive of being observed. Hence, from the third week of observation, only six male workers were observed, besides those six female workers.

Based on the observations made, an analysis of time utilization of the health workers was made. This section presents the findings of the observations.

A comparative analysis of self-logging and observation has also been attempted here.

(A) Junior Health Assistants (Male)

Apart from observation of all the seven Jr. H.A(M)s for several days, 3 of them were requested also to self-record their activity on specific days of non-observation. An analysis of average time utilization of the other four junior health assistants revealed that, a lady (who happened to work as a male health worker) spent only 52% of her activity time for providing services, while as much as 29% her of activity time was spent in attending to personal work, general talk, tea/coffee breaks and being idle. Of the other three workers, HW No. 5 spent 63% of his activity time on services.

15% of his activity time was spent on personal work or waiting for his colleagues. and general talk. This could be due to the fact that during the 37 days he was observed, 7 days he had to attend to inoculation (anti-cholera) in certain areas. During such inoculation sessions, any worker is forced to be idle for quite some time, while waiting for people to come to the venue, also for additional supply of vials if necessary. If these seven days are excluded, it is found that, on an average, this worker spends only 15-30 minutes for personal reasons. The other two workers spent over 75% of their activity time for providing services. (See Table 10).

An analysis of time utilization by components of services (given in Table 11) revealed that by and large the workers devoted much of their service time (30-60%) on family welfare activities. Consequently, the time spent on other service components has been uneven and small.

B. Junior Health Assistants (Female)

Of the six workers, one was observed as well as asked to self record. An analysis of their average time utilization for activities showed that all workers spent over 75% of their average activity time for providing services. HW No. 2 and No. 3 were found to have spent 80% of their activity time on services. HW No. 6, whose service time worked out to be 78% was found to have spent more time on walking (17%). This

Table 10

Average Time Utilization of
Junior Health Assistants (Male)

Sl. No.	Jr. Health Asst.(M) No.	N	Average time spent on			
			A	S	W	P
1.	2	33	296 (100.0)	227 (76.7)	50 (16.9)	19 (6.4)
2.	7	12	232 (100.0)	121 (52.2)	43 (18.5)	68 (29.3)
3.	4	36	310 (100.0)	241 (77.7)	47 (15.2)	22 (7.1)
4.	5	37	243 (100.0)	154 (63.4)	52 (33.8)	37 (15.2)

N = No. of days observed

A = Activity time

S = Service time

W = Walking, stenciling and travelling.

P = Personal time

Note: Figures in brackets denote the per cent of time spent to total activity time.

Table 11

Per cent of Time Utilization for various activities
(Junior Health Assistants - Male)

Sl. No.	Activity/Service	Per cent of time utilised by Health worker No.			
		2	4	5	7
1.	Malaria eradication	27.0	22.6	32.1	10.3
2.	Control of communicable diseases	2.1	11.1	12.6	2.7
3.	Environmental Sanitation	1.1	4.4	1.2	-
4.	Immunization	2.8	6.2	4.6	1.4
5.	Family planning	41.8	31.6	31.7	57.8
6.	MCH services	3.1	4.6	0.2	0.7
7.	Vital statistics collection	3.3	3.7	3.6	1.9
8.	Nutrition	5.1	7.7	2.1	8.4
9.	Primary medical care	3.3	3.3	4.8	9.5
10.	Team activities	7.1	1.9	4.5	4.0
11.	Record maintenance	2.7	2.9	1.9	0.3
12.	Work at PHC	-	-	-	2.1
13.	Interaction with community health volunteers/Dais	0.6	-	0.7	0.9
Total		100.0	100.0	100.0	100.0

is because the subcentre, she is assigned to, includes those interior villages, which are at 4-5 kms distance from each other. This worker was found to spend least time on personal work (5%). The other subcentre with interior villages were assigned to HW No. 2 who was found to spend about 14% on walking. (See Table 12).

An analysis of the time utilization by service components showed that most of their service time was devoted to family planning activities (percent of service time devoted ranged from 33-49%) followed by MCH services (22-27%), and immunization (5-16%). (See Table 13).

Thus all junior health assistants (male and female) were found to devote most of their service time on family planning activities. This could well be attributed to the government's emphasis on target achievement in the family planning programme. Since these workers are given a set target to achieve in family planning, they are forced to spend more time on this activity, and thus neglect other important activities.

C. A comparative analysis of observation and self-logging of Junior Health Assistants' pattern of time utilization

During the period of observation four of the junior health assistants (3 male and 1 female) were given schedules for self-logging of their time utilization for some days. This section of the study is an attempt at analyzing the time

Table 12

Average Time Utilization of
Junior Health Assistants (Female)

Sl. No.	Jr. Health Asst. (F) No.	N	A	S	W	F
1.	2	40	276 (100.0)	221 (80.1)	38 (13.8)	17 (6.2)
2.	3	39	262 (100.0)	210 (80.2)	31 (11.8)	21 (8.0)
3.	4	16	279 (100.0)	211 (75.6)	31 (11.1)	37 (13.3)
4.	5	39	253 (100.0)	200 (79.1)	24 (9.5)	29 (11.5)
5.	6	38	280 (100.0)	218 (77.9)	48 (17.1)	14 (5.0)

N = No. of days observed

Figures in brackets are percentage
to total activity time.

Table 13

Percent of Time Utilization for various activities

Sl. No.	Activities/Service	Per cent of time spent by H.W. No.				
		2	3	4	5	6
1.	MCH	26.9	22.4	23.5	21.6	24.7
2.	Family Planning	48.5	34.8	42.3	49.3	33.2
3.	Nutrition	2.1	6.0	0.1	0.7	11.7
4.	Immunization	5.4	16.2	15.4	5.5	9.8
5.	Vital statistic collection	2.8	3.8	0.2	2.3	5.0
6.	Control of communicable diseases	5.9	6.0	6.2	7.2	6.2
7.	Primary medical care	4.6	3.7	5.0	8.3	4.3
8.	Team activity	3.6	5.8	7.3	2.5	2.8
9.	Record maintenance	-	0.8	-	2.0	2.1
10.	Preparation (for immunization)	-	0.4	-	-	-
11.	Interaction with CHV/Dais	-	-	-	0.6	0.5
12.	Cleaning	-	-	-	-	0.3
13.	Group meeting	0.2	0.1	-	-	-
Total		100.0	100.0	100.0	100.0	100.0

utilization pattern of these four health assistants, comparing the pattern with those observed and self-recorded.

As can be observed from Table 14 the three male workers, through their self-logged schedules, claim to have spent much of their activity time for rendering services. While one of these health worker's statement is reasonably comparable with what has been observed, those of the other two workers show striking differences between what is recorded by them and what has been observed. As per his recording, Worker No. 1 has spent 97% of his activity time in rendering service, while as observed (for a period of 27 days), he spent only 74% on health services. And walking from one area to another accounted for 16% of his activity time when observed; while it was recorded as a mere 1% by the worker. Similarly worker No. 3 had recorded the time spent on providing services on an average as 89%, as per the observations it was only 75%.

This discrepancy could be attributed to the fact that these health assistants, included the time they spent on walking also in the service time. Since they were not aware or used to this sort of self-logging despite a detailed explanation regarding the method of logging, they included their time spent on walking as 'service time' as it ~~was~~ related to their service.

A comparative analysis of their time utilization in various components of services (Table 15A) reveals that these health workers, while recording, did it in a manner as would

be ordinarily expected of them. During observation, it was found that in reality the three male health assistants devoted more time to family planning. The other major findings in this regard are:

- While observation data showed that very little service time (1-2%) was spent on environmental sanitation, the three male health workers recorded the time devoted to service as around 12%.
- Junior Health Assistant No. 1 recorded that his service time on malaria eradication generally accounted for 50% of his total service time but, on observation, it was found to be a mere 28%.
- A Junior Health Assistant (F) claimed in her recording to have spent 42% of her total service time on MCH programme, while the observed time spent on this service was 24%.
- The health worker No. 6 was found to have spent as much as 45% of his total service time in providing family planning services; during self-logging he recorded the time devoted for family planning services as 16% only. This could be attributed partly to a sterilization camp during the period of observation, which necessitated all workers to concentrate in motivating and bringing cases for the camp.

- Except for one of these 3 male health assistants who generally devoted certain time everyday for maintaining records, none entered the information regularly. Yet, it was found that the other two male health assistants claimed to have devoted about 2-4% of their service time in maintaining records. This is a clear indication of the fact that, despite detailed explanation regarding the ways to record time in the given schedule, the workers filled some time interval in every component of the service, including those components, where no activity generally has taken place.

Generally, these male health assistants are found to devote most of their service time in providing services in the area of family planning and malaria eradication (the two together account for over 50% for HW No. 1, about 38% for HW No. 3 and over 60% for HW No. 6 as observed), while for the Junior Health Assistant (F) MCH and family planning are the major areas of service accounting for about 46% when observed and about 66% when recorded by herself.

It may be inferred, therefore, that self-logging is not a reliable method of estimating time utilization by health care personnel. (See Table 15 B for the statistical analysis of the differences in service time estimated).

Table 14

Average Time Utilization - A comparison

Jr. Health Worker		Self logging					Observation				
		N	A	S	W	P	N	A	S	W	F
<u>Male</u>											
HW1	10	348 (100.)	339 (97.4)	4 (1.1)	5 (1.5)	27	294 (100.0)	218 (74.1)	47 (16.0)	29 (9.9)	
HW3	13	336 (100.0)	300 (89.3)	5 (1.5)	31 (9.2)	32	279 (100.0)	210 (75.3)	28 (10.0)	41 (14.7)	
HW6	20	303 (100.0)	231 (76.2)	40 (13.2)	32 (10.6)	10	314 (100.0)	225 (71.7)	47 (14.9)	42 (3.4)	
<u>Female</u>											
HW1	5	236 (100.0)	160 (67.8)	57 (24.1)	19 (8.1)	27	293 (100.0)	246 (84.0)	39 (15.9)	8 (2.7)	

- A = Activity time
- S = Service time
- W = Walk time
- P = Personal time
- N = No. of days observed

Note: Figures in brackets denote to percent of activity time.

Table 15 A

A Comparative Analysis of Time Utilization Patterns

Sl. No.	Activity/ Service	MHW1		MHW3		MHW6		FHW1	
		O	SL	O	SL	O	SL	O	SL
1.	Malaria eradication	27.5	50.3	12.8	25.5	21.9	20.3	00.0	-
2.	Control of communi- cable diseases	9.8	13.0	11.8	8.6	17.8	17.3	10.4*	-
3.	Environmental sanitation	1.3	3.1	2.4	9.1	-	13.2	-	-
4.	Immunization	0.7	6.6	15.3	9.8	0.4	18.9	6.5	7.5
5.	Family planning	27.3	11.2	25.7	12.1	45.1	16.4	22.1	25.5
6.	MCH	0.8	2.5	6.2	7.5	2.0	4.6	24.3	41.7
7.	Vital statistic collection	1.9	4.1	2.9	5.1	5.3	0.5	4.9	4.8
8.	Nutrition	12.4	5.3	2.7	3.7	-	0.5	22.4	11.6
9.	Primary medical care	4.3	2.1	6.4	9.2	-	4.4	6.3	1.0
10.	Interaction with CHV	-	-	1.5	-	-	-	-	-
11.	Team activities	4.2	-	3.4	6.2	7.5	-	1.6	7.9
12.	Record maintenance	-	1.8	7.2	3.2	-	3.9	1.5	-
13.	Group meetings	9.8	-	1.7	-	-	-	-	-
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

O = Observation

SL = Self logging

* Includes malaria eradication related work.

MHW = Male health worker

FHW = Female health worker

Table 15B

Proportions of service time compared under
alternative methodologies

Methodology	Sample proportion	N	Remarks
<u>Worker 1</u>			
Observation	0.741	27	Difference significant ($P_1 < P_2$) at 1% level.
Self logging	0.974	10	
<u>Worker 2</u>			
Observation	0.753	32	Difference significant
Self logging	0.893	13	
<u>Worker 6</u>			
Observation	0.717	10	Difference not
Self logging	0.762	20	
<u>Worker 4</u>			
Observation	0.84	27	Difference not significant
Self logging	0.68	5	

Note: The proportion computed as a ratio of time engaged in rendering service (including walking time for house to house visits) to total activity time (including personal time, absence from work station etc).

N = No. of days observed.

D. Component-wise Time Utilization within a service

This section deals with the information on the time spent on a particular component of various health services.

An analysis of the time spent on the components of each of the services is given in Table 16A and B, which appear at the end of this chapter. These reveal:

- a) Collection of blood smears by Jr. HA(M) is the component receiving much attention with 34% of the total time (spent on malaria eradication programme by these male workers) being devoted to this activity. This is followed by the activity of identifying fever cases (25%) and health talk (25%).
- b) 61% of the male workers' time (on family planning and welfare activities) was spent on motivating the eligible couples.
- c) 49% of the time (spent on primary medical care by male workers) was for treating for minor ailments.
- d) Registration of antenatal and postnatal cases by junior health assistants (F) received much attention among the MCH services, with over 45% of their time on MCH being spent on registrations.
- e) Over 50% of the time (spent on family planning was spent by female workers on contacting as well as motivating the eligible couples and registering eligible couples for adapting family planning methods. Conducting group meeting

was another component receiving attention, with the female workers spending about 21% of their family planning activity time on this;

f) Many of these junior workers' (male and female) activity time was spent on 'Health Talk', especially in the area of control of communicable diseases, immunization, environmental sanitation and malaria eradication programme (See Table 17A & B which appear at the end of this chapter).

A further analysis of the time spent on 'Health talk' by the male and female health assistants reveals that two of the male health assistants had spent less than 19% of their service time on health talk, while two of the female health assistants had spent a little more than 10% on 'Health talk'. In one case, both the male and female health assistants working in the same subcentre area) devoted —relatively less time on 'Health talk'. This could be due to the non-cooperation of the villagers. On questioning, these two assistants mentioned that in one of the villages, affiliated to their subcentre, most of the people prefer commuting to the city for educational, employment as well as health purposes. As such, a positive attitude towards the activities of the Primary Health Centre as well as its subcentres seems to be lacking among these people. They seldom listen to the 'Health talk' and hence a relatively low proportion of service time was spent on this component by Junior Health Assistant (male: 9.2% and female 11.1%).

Another male worker was observed to spend only 8% of his service time on 'Health talk'. This could be attributed to the fact that this worker, during the period of observation, was many days assigned the work of inoculating villagers in certain areas against cholera (7 days of the 37 days observed, he was busy the whole day with anti-cholera inoculation). Hence, his time allocation for 'Health talk' during this period could have been less.

Health talk on malaria eradication, communicable disease control and immunization appeared to be relatively more among the male health assistants. The female health assistants were found to have spent much of their 'Health talk' time on MCH and immunization. This is mostly in accordance with their respective job descriptions.

Table 16A

Junior Health Assistant - Male
Estimated Time spent on Activities

Health Worker	N	Malaria Eradication Programme						AV
		Fever cases	Blood smears	Ad.P.T	H.T	REC	Total	
1	37	934	971	616	668	192	1,381	91
2	33	362	603	373	539	161	2,038	61
3	45	358	602	151	610	143	1,864	41
4	36	644	659	148	484	38	1,973	55
5	37	389	678	62	521	85	1,735	47
6	30	380	612	50	214	71	1,327	44
Total	218	3,067	4,125	1,400	3,036	690	12,318	57

Daily Average	14.1	18.9	6.4	13.9	3.2	56.5
%	24.9	33.5	11.4	24.6	5.6	100.0

N = No. of days observed
 Ad.P.T = Administer presumptive treatment
 H.T = Health talk
 REC = Recording

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Table 16A contd.

Communicable disease control

(Minutes)

Health worker	N	Case Identifi- cation	Health talk	ECM	AC Inocula- tion	REC	Total	Av.
1	37	282	550	-	165	18	1,015	27
2	33	40	86	13	-	-	139	4
3	45	190	365	76	637	36	1,104	25
4	36	94	864	-	-	14	972	27
5	37	55	67	24	583	-	729	27
6	30	76	934	15	120	48	1,193	40
Total	218	737	2,866	128	1,505	116	5,352	24.6

Daily								
Average		3.4	13.2	0.6	6.9	0.5	24.6	
%		13.8	53.6	2.4	28.1	2.2	100.0	

N = No. of days observed
 ECM = Enforcement of Control Measures
 AC = Anti-cholera
 REC = Recording.

Table 16A contd.

Environmental Sanitation, Immunization and MCH

(Minutes)											
Health Worker	N	Environmental sanitation				Immunization			MCH		
		H.T.	Rec.	Overall		H.T.	Overall		H.T.	Overall	
				Time	Av.		Time	Av.		Time	Av.
1	37	181	15	196	5	335	335	9	118	118	3
2	33	82	-	82	2	212	212	6	80	254+	8
3	45	482	47	529	12	509	1142 ^⓪	25 ^⓪	365	422 ^⓪	9
4	36	367	-	357	10	540	540	15	279	353'	10
5	37	71	-	71	2	201	260 ^x	7 ^x	10	10	0.3
6	30	610	-	610	20	928	928	31	213	224"	7
Total	218	1783	62	1845	8.5	2725	3417	15.7	1065	1381	6.3

Daily

Average	8.2	0.3	8.5	12.7	15.7	4.9	6.3
%	96.6	3.4	100.0	79.8	100.0	77.1	100.0

^⓪ Includes BCG (four Thursdays during observation)
628 minutes and recording 5 minutes.

^x Includes 52 minutes of school immunization and
7 minutes of recording.

⁺ Includes 81 minutes of 0-1 registration, 8 minutes of
TT administration and 85 minutes of identifying abnormal ANC's
and informing to Jr. Health Assistant (F).

[†] Includes 34 minutes of TT administration, 5 minutes of
Fs tablet distribution and 10 minutes of recording.

^{*} Includes 74 minutes of TT administration.

^{*} Includes 11 minutes of Recording.

Note: H.T. = Health Talk N = No. of days observed
Av. = Average.

Table 16A contd.

Family Planning										
(Minutes)										
Health Worker	N	Rec.	Motiva- tion	Distribution of		Followup of cases	PHC Referral	Assist in Camps	Overall	
				CC	OP				Time	AV.
1	37	96	1165	26	-	150	10	540	1987	54
2	33	302	2154	156	56	132	-	610	3470	103
3	45	114	1268	62	-	40	-	760	2244	50
4	36	348	1486	207	-	-	-	680	2721	76
5	37	-	1305	26	-	-	-	570	1901	57
6	30	-	4015	60	-	180	-	210	1465	49
Total	218	860	8393	537	56	502	10	3370	13728	63
Daily										
Average		3.9	38.5	2.5	0.3	2.3	0.05	15.5	63.0	
1		6.3	61.1	3.9	0.4	3.7	0.1	24.5	100.0	

N = No. of days observed
 Rec. = Registering eligible couples.
 CC = Conventional Contraceptives
 OP = Oral Pills

Table 16A contd.

Registration of vital events and nutrition

Health worker	N	Vital events					Nutrition				
		B	D	HT	Overall		IMN	Fs Tab.	Vit.A	Overall	
					-----					-----	
					Time	Av.				Time	Av.
1	37	172	12	69	253	7	167	732	10	909	25
2	33	119	-	92	211	6	45	317	-	362	11
3	45	180	41	180	401	8	61	198	79	338	8
4	36	125	17	164	306	9	371	293	16	680	19
5	37	143	30	34	207	6	33	75	9	117	3
6	30	128	6	10	144	5	25	5	-	30	1
Total	218	867	106	549	1522	7	702	1620	114	2436	11.1

Daily											
Average	4.8	0.5	2.5	7.0			3.2	7.4	0.5	11.1	
%	57.0	7.0	36.0	100.0			28.8	66.5	4.7	100.0	

IMN = Identify malnutrition cases
 Fs.Tab. = Distribution of iron & folic acid tablets
 Vit.A = Distribution of Vitamin A tablets
 N = No. of days observed
 B = Births
 D = Deaths

Table 16A contd.

Primary Medical Care

(Minutes)

Health Worker	N	MA	First aid	Health talk	Supply of drugs	Recording	Overall	
							Time	Av.
1	37	290	-	35	-	-	325	9
2	33	67	8	124	-	33	232	7
3	45	265	21	402	88	30	806	18
4	36	143	-	98	-	-	241	7
5	37	127	-	132	-	5	264	7
6	30	120	-	95	-	-	215	7
Total	218	1012	29	886	88	68	2083	9.5

Daily							
Average	4.6	0.1	4.1	0.4	0.3	9.5	
%	48.6	1.4	42.5	4.2	3.3	100.0	

N = No. of days observed

MA = Minor ailments

Table 16A contd.

Record Maintenance

						(Minutes)	
Health Worker	N	Diary	Registers	Reports & Relations	List	Overall	
						Time	Av.
1	37	60	-	-	-	60	2
2	33	55	20	130	-	205	6
3	45	430	91	110	-	631	14
4	36	150	103	-	-	253	7
5	37	-	40	183	20	243	7
6	30	110	65	-	-	175	6
Total	218	805	319	423	20	1567	7
Daily Average		3.7	1.5	1.9	0.1	7.2	
%		51.4	20.3	27.0	1.3	100.0	

N = No. of days observed.

Table 16B

Junior Health Assistants (Female)
A. MCH Service

(Minutes)

Health	N	Registration		Visits			TT	Dai's visit	Fs Tablet	Health Talk	Overall	
		ANC	PNC	0-1	ANC	PNC					Time	AV
				Year								
1	32	732	385	32	-	60	-	6	329	368	1912	60
2	40	429	331	668	-	-	73	-	463	405	2369	59
3	39	592	394	-	-	58	226	35	264	245	1814	47
4	16	413	164	-	-	-	-	-	72	195	843	53
5	39	453	326	118	-	11	63	-	563	225	1759	45
6	38	573	388	233	285	8	10	13	112	415	2027	53
Total	204	3192	1987	1041	285	137	372	54	1803	1853	10724	52.5
Daily Average		15.6	9.7	5.1	1.4	0.7	1.8	0.3	8.8	9.1	52.5	
Σ		29.8	18.5	9.7	2.7	1.3	3.5	0.5	16.8	17.2	100.0	

N = No. of days observed
ANC = Ante natal care
PNC = Post natal care
TT = Tetanus toxoide
FS Tab = Iron & folic acid tablets

Table 16B contd.

Registration of Vital Events and Nutrition

(Minutes)												
Health Worker	N	Vital Events					Nutrition					
		Births	Deaths	Health	Overall		IMN	Distri- bution of Fs.	Vit.A	H.T.	Overall	
					Time	Av.					Time	Av.
1	32	196	25	196	417	13	11	150	1370	-	1531	48
2	40	113	23	90	226	6	130	-	56	-	186	5
3	39	179	5	141	325	8	7	37	428	8	480	12
4	16	-	-	-	-	-	-	5	-	-	5	0.3
5	39	98	24	53	175	4	-	44	7	-	51	1
6	38	141	43	231	415	11	59	72	705	-	836	22
Total	204	727	120	711	1558	7.7	207	308	2566	8	3089	15.1
Daily Average		3.6	0.6	3.5	7.7		1.0	1.5	12.6	0.04	15.1	
%		46.7	7.7	45.6	100.0		6.7	10.0	83.1	10.2	100.0	

IMN = Identify malnutrition cases

HT = Health talk

N = No. of days observed.

Table 16B contd.

Family Planning Services

(Minutes)

Health Worker	N	Rec.	Motiva- tion	Distribution			Follow- up	Register cases	Camp asst.	Overall	
				GM	OP	CC				Time	Av.
1	32	160	836	170	11	147	55	-	210	1589	50
2	40	707	1301	1254	-	56	327	100	385	4130	103
3	39	805	713	99	-	45	238	375	450	2725	70
4	16	-	750	94	-	51	210	-	385	1490	93
5	39	284	1427	1305	111	57	-	-	360	3544	91
6	38	749	885	412	-	100	98	-	550	2794	74
Total	204	2705	5912	3334	122	456	928	475	2340	16272	79.7
Daily Average		13.3	29.0	16.3	0.6	2.2	4.5	2.3	11.5	79.7	
Z		16.6	36.3	20.6	0.7	2.8	5.7	2.9	14.4	100.0	

N = No. of days observed
 Rec. = Registering eligible couples
 GM = Group meeting
 OP = Oral pills
 CC = Conventional Contraceptives
 Camp asst. = Assisting in camps.

Table 16B contd.

IMMUNIZATION									
(Minutes)									
Health worker	N	Preparation	DPT & Polio	DT	Measles	School visit	Health talk	Record- ing	Overall ----- Time Av.
1	32	-	-	-	-	-	514	23	537 17
2	40	-	-	105	-	-	298	70	473 12
3†	39	85	940	33	49	-	257	11	1375 35
4	16	-	10	-	-	-	347	159	516 32
5	39	15	20	65	-	20	257	-	377 10
6	38	-	318	167	-	-	200	21	706 19
Total	204	100	1288	370	49	20	1873	284	3984 19.5
Daily Average		0.5	6.3	1.8	0.2	0.1	9.2	1.4	19.5
Σ		2.5	32.3	9.4	1.2	0.5	47.0	7.1	100.0

† Every Thursday this worker attends to
Immunization clinic at PHC.

N = No. of days observed.

Table 16B contd.

Communicable Disease Control

(Minutes)

Health worker	N	Disease identification	BS collection	Administer treatment	AC inoculation	Health talk	Recording	Overall ----- Time Av
1	32	151	86	-	-	443	-	680 21
2	40	26	157	-	-	242	-	425 11
3	39	79	136	-	3	275	-	493 13
4	16	-	74	-	-	92	5	171 13
5	39	83	198	24	195†	130	10	640 16
6	38	10	231	25	—	255	8	529 14
Total	204	349	882	49	198	1437	23	2938 14.3
Daily Average		1.7	4.3	0.2	1.0	7.0	0.1	14.3
	2	11.9	30.0	1.7	6.7	48.0	0.8	100.0

N = No. of days observed

† Anti-cholera inoculation in one area on one of the days observed.

BS = Blood smear

AC = Anti-cholera.

Table 16B contd.

Primary Medical Care And Record Maintenance

(Minutes)

Health Worker	N	Primary Medical Care						Record Maintenance						
		MA	FA	Health talk	Supply of drugs	Overall		Register			Maternity Registers		Overall	
						Time	Avg.	ANC	0-1 years	Reports	Time	Avg.		
1	32	130	-	277	-	407	13	78	-	-	-	-	78	2
2	40	232	25	64	80	409+	10	33	30	-	-	-	63	2
3	39	75	-	142	88	305	8	4	7	-	-	-	11	0.3
4	16	88	12	68	-	168	11	-	-	-	-	-	-	-
5	39	96	-	141	431	668	17	30	25	-	-	-	55	1
6	38	33	5	176	176	390	10	59	80	75	-	-	214	6
Total 204		654	42	860	775	2347	11.5	204	142	75	-	-	421	2
Daily Average		3.2	0.2	4.3	3.8	11.5		1.0	0.7	0.4	-	-	2.1	
%		28.0	1.9	37.1	33.0	100.0		48.5	33.7	17.8	-	-	100.0	

MA = Minor ailments
FA = First aid
+ Includes 8 minutes of recording.
N = No. of days observed

Table 17A

Estimated Time spent on Health Education/Talk
Junior Health Assistant (Male)

(Minutes)										Overall	
Health Worker	N	Ma	CDC	ES	I	MCH	PMC	VE	Time	AV.	
1	37	668	550	181	335	118	35	69	1956	53	
2	33	539	86	82	186	80	124	92	1189	36	
3	45	610	365	482	509	365	402	180	2913	65	
4	36	484	864	357	540	279	98	164	2786	77	
5	37	521	67	71	201	10	132	34	1036	28	
6	30	214	934	610	928	213	95	10	3004	100	
Total	218	3036	2866	1783	2699	1065	886	549	12884	59	
Daily Average		13.9	13.1	8.2	12.4	4.9	4.1	2.5	59.1		
%		23.6	22.2	13.8	20.9	8.3	6.9	4.3	100.0		
N = No. of days observed											
Ma = Malaria eradication											
CDC = Communicable Disease Control											
ES = Environmental sanitation											
I = Immunization											
MCH = Maternal & Child Health											
PMC = Primary Medical Care											
VE = Vital events											

Figures in brackets denote the per cent of service time on 'Health talk' by each worker to overall service time on 'Health talk'.

Table 17B

Estimated Time spent on Health Education/Talk
Junior Health Assistants (Female)

(Minutes)

Health Worker	N	MCH	I	CDC	VE	PMC	Overall	
							Time	Av.
1	32	368	514	44	196	277	1399	44
2	40	405	298	242	90	64	1099	27
3	39	245	257	275	141	142	1060	27
4	16	195	347	92	-	68	702	44
5	39	225	257	130	53	141	806	21
6	38	415	200	255	231	176	1277	34
Total	204	1853	1873	1038	711	868	6343	31.1

Daily Average	9.1	9.2	5.1	3.5	4.2	31.1
%	29.2	29.5	16.4	11.2	13.7	100.0

N = No. of days observed
 MCH = Maternal and Child Health
 I = Immunization
 CDC = Communicable Disease Control
 VE = Vital Events
 PMC = Primary Medical Care.

IV. ATTITUDES OF HEALTH MANPOWER - A SURVEY

Time utilization by health manpower, and their productivity, is expected to be influenced inter alia by their attitudes to the job, especially their perceptions of the objectives to be pursued; organizational inadequacies and other constraints; job related tensions and job satisfaction etc. An attempt was made to ascertain these factors using structured questionnaires (See Annexure IV), and personal discussions. These responses are summarized below.

MEDICAL OFFICERS

The perceptions of the Administrative Medical Officer (AMO) and the Lady Medical Officer (LMO) about the objectives of the PHC and the problems encountered in achieving these appear to be different.

The LMO specifically emphasises the MCH programme, while the AMO lays stress on control of communicable diseases. AMO is of the opinion that the PHC objectives in respect of control of communicable diseases, family planning, malaria eradication and immunization are fully achieved, while the LMO states that none of these objectives are fully achieved.

While the AMO perceives curing infectious diseases to be difficult mainly because of illiteracy, the LMO perceives, environmental sanitation to be a difficult objective to

achieve, as despite health education, many are ignorant about the need for environmental sanitation. The LMO perceives mal-nutrition as a major health problem, while the AMO lists pyroxia, dysentery etc., as major diseases in the area.

Lack of necessary equipment and inadequate supply of drugs were mentioned by both the medical officers as major inadequacies of the support services to the PHC. As per the LMO, her major functions are ANC checkup, immunization and family planning services and primary medical care. AMO perceives that his functions are: out-patient care and maternity care etc.

As regards the percent of time devoted to each function, AMO is stated to devote about 67% on attending to outpatients and the remaining 33% on administrative work. The LMO has never thought of assessing the approximate time spent on various activities such as family planning services and primary medical care, as she considers that to be a waste of time.

AMO perceives quantity and quality of equipment supplied to PHC, manpower resources, recruitment system, training, drug supply and availability of funds as the major constraints in achieving the PHC objectives. The LMO perceives drug supply and equipment provision (quantity, variety and system) as major constraints, as also the lack of a transport.

The LMO suggests that the present system of annual drug supply may be made quarterly and for the present at least emergency equipment (oxygen cylinders, sterilizers etc.,) should be supplied. The AMO perceives the need for recruiting trained personnel.

The AMO is unable to mention clearly the major deficiencies/drawbacks of his staff. According to the LMO, the deficiencies are not qualitative but quantitative. For instance, the unit needs a lab technician and a slide lab. Both mention that the shortage of drug supply and lack of necessary equipment as the major constraints in performing their functions at PHC.

As regards the differential level of performance of the staff, the LMO states that the difference is due to the basic nature of the worker; added to this, the extent of availability of facilities and the level of supervision. The AMO has not been able to state anything specific in this regard. When asked to specify the actions taken by them in improving PHC activities, the LMO states that she has conducted some School Health Programmes to improve the immunization programme. The AMO has not taken any specific action for programme improvement.

While according to the AMO, he interacts with the senior and junior health assistants once a fortnight, the LMO states that she interacts with senior and junior health assistants

once a week. As per the LMO, during such meetings problems regarding family welfare are discussed. Health assistants also clarify their doubts. The AMO states that community health problem, preventive and curative measures are discussed during such meetings.

Regarding the frequency of their contact with the staff during their (Medical Officers') field visits, both state that they visit the subcentre areas/villages only when required. As such, their contact with the field staff during field visits appears to be very rare.

LMO perceives the performance of the Sr. HA (F) as 'excellent', while AMO rates the performance of the same Sr. HA(F) as only 'fair'. And, LMO rates one of the Jr. HA(F)'s performance as excellent, while six others as 'Good', AMO rates all their performance to be 'fair'. Further, AMO rates the performance of Sr. H.A (M) as also that of the three of the Jr. H.As (M) as 'Good' and four others as 'fair'. It appears that the AMO's rating of staff performance is not based on any objective appraisal as:

- he seldom interacts with any of the health assistants;
- he hardly, if ever reviews the actual work of the health assistants;
- his field visits during the 1 1/2 years of posting to this PHC has been just three or four times.

Approach and Planning:

The medical officers' activity planning is expected to influence the effectiveness of programme implementation. Hence the medical officers were asked to state:

- their approach to improvement of the level of motivation of the staff,
- their assessment of the major factors required for improved services, and
- their method of planning, its frequency and the category of staff involved in planning.

An analysis of their responses reveals that:

- LMO tries staff motivation through guidance, frequent supervision of the work and discussion with them. AMO believes that the motivation of staff can be increased among other things by giving considerations to their financial needs

Supply of drugs has been ranked highly by both medical officers as a requirement for improving PHC services (See Table 18).

Table 18

Factors Required for Improved PHC Services

Sl. No.	Factors	Rank	
		AMO	LMO
1.	Training	4	4
2.	Rewards/Prizes/Incentives	5	3
3.	Recognition of good work	2	1
4.	Public criticism of poor work	10	9
5.	Job satisfaction	8	10
6.	Salary and allowances	6	8
7.	Responsibility	7	6
8.	Close supervision	3	5
9.	Job security	9	7
10.	Supply of drugs	1	2

According to the LMO, planning is merely a routine function. AMO states that planning is done once a month during the monthly meeting. As regards the category of staff involved in planning, he states that plans are designed at DHO level. It is apparent that no activity planning is done in this PHC.

Job related Tensions

An inquiry into the prevalence of job related tensions in regard to certain conditions of work has been attempted on the basis of a question which asks "How bothered are you with the following conditions of work?" This reveals that:

The AMO's job-related tensions are high in regard to

- high work load,
- inadequate infrastructure and,
- inadequate supply of drugs and equipment.

The LMO's job-related tensions are high in regard to the inadequate supply of drugs and equipment and moderately high in respect of:

- a) excessive work load and
- b) inadequacy of staff (especially at PHC headquarters) especially Jr. Health Asst.(F).

AMO has moderately high job-related tension in respect of:

- a) inadequate authority,
- b) ineffective organizational communication,
- c) ignorance of supervisor's expectations, and
- d) high work load affecting the quality of work.

A consolidated job related tension score is computed by assigning a score of 3,2 and 1 depending on whether a particular factor, causes a respondent to be 'always

bothered', 'sometimes bothered' and 'not bothered' respectively, and adding up these scores for all factors combined.

The job related tension score for AMO is observed to be 25 and 16 for LMO.

Field Visits

An analysis of the doctors' responses regarding the aspects supervised during their visits reveals that :

- cleanliness, maintenance of registers and charts and enquiry about the drug position as well as need for drugs are the aspects considered important by the officials.
- Progress of work at PHC, extent of implementation of national programme (malaria, leprosy control), financial matters, drug position, outpatient statistics and immunization level are other aspects supervised during the officials' visit.

Suggestions on Measures for Improving PHC Services

The medical officers believe that District Health Office could help the PHC more effectively in implementing its various programmes. The practical problems restricting the improvement of PHC services are known better by the medical officers than any others. When asked to suggest measure for better implementation, the AMO suggests that adequate supply

of drugs, provision of a vehicle and additional staff (qualified technician) are the immediate needs for the PHC to improve its services. He states that these needs can, with very little efforts, be met by the District Health Office. The LMO also emphasizes the need for the provision of necessary equipment like oxygen cylinder, and prompt and adequate supply of drugs are the essential requirements for improving implementation of PHC programmes.

It is felt that between the two medical officer, LMO is more effective than AMO as a manager or leader of the PHC. Despite the fact that the LMO's work experience (at PHC) is only one year, while that of AMO's work experience at PHCs is 6 years, her views and perceptions appear to be more clear. Her opinions about the health assistants of this PHC is based primarily on the review of their work and her interactions with them. Hence her opinions appear to be reasonable. Contrary to this, the AMO's views and perceptions are vague and his opinions about his field staff are expressed haphazardly, without any reasonable basis. Even when the issues are related to medical profession requiring his efforts and perceptions, he consults the pharmacist whose work experience as such is only four years. He seldom thinks independently and decides the course of action. Because of his lack of interaction with, and hence lack of understanding of the problems of, health assistants, he has not developed a good rapport with the health assistants.

All health assistants have expressed their satisfaction about the LMO's understanding of their problems and her able guidance provided when required.

Thus, it is clear that for effective implementation of PHC programmes, basic requirements are the provision of necessary equipment and adequate supply of drugs. Also required is an able, decisive, systematic medical officer with expertise in administrative as well as medical fields. The medical officer should visit the subcentre villages at least once a month, interact with the health assistants (once a fortnight) and provide the necessary guidance to them.

SENIOR HEALTH ASSISTANT (MALE)

An analysis of the responses of the Sr. Health Assistant (M) to certain questions related to his perceptions and opinions reveals:

Control of communicable diseases, malaria eradication and family planning programme are perceived to be the most important objectives of PHC by the Sr. H.A (M).

According to him, his role in achieving the objectives of the PHC is providing supportive services to the Jr. H.As (M), and conduct spot investigations in the areas where cases of gastroenteritis/cholera are reported, and arrange inoculation as a preventive measure.

The male Sr. H.A's mode of supervision consists of the review of the Jr. H.A(M)'s diaries and their field verifications. He feels that the fact, that some workers work better and some do not work at all, depends very much on the attitude and capacity of the workers. The targets for family planning are based on the number of eligible couples registered. His role in fixation of targets is only dividing the given target to each such subcentre according to their populations. He feels that targets are essential for the successful functioning of the PHC. Sr H.A (M) is quite vague about the pattern he follows for supervision. He does not specifically state the prescribed pattern for supervision, or the pattern he practises. This may be because he seldom visits the field.

As stated by him, he meets each worker under his supervision once a fortnight. During such meetings a review of the work done is made, verifications at the field are also made and where necessary practical measures are suggested.

While he states that he spends 2-3 hours with each worker once met, the workers say that his field visits are rare and even when he meets them, he spends about 30 minutes at the most. And, it is also stated that where a provision of a subcentre building is made, he just visits the subcentre headquarters, reviews the diary of the Jr. H.As and the attendance register, spends about 20-30 minutes and leaves the subcentre headquarters without visiting any of the subcentre villages.

The fact, that his field visits are rare, is supported by the observation that he does not respond to the queries as to what is done as well as discussed during such visits. As regards his approach of supervising the staff and mode of supervision. he merely states that he emphasizes both target achievement and quality of performance.

He claims to be making use of the ideas suggested by the Jr. H.As. eg. interaction with community leaders as suggested by Jr. H.A(M).

Community Participation

The Male Sr. Health Assistant states that he involves the community through orientation training camps, Mahila Samaj committee, Leaders' camp, by contacting the Lion's club etc. He opines that the participation by the community has been quite good. To raise the level of community participation, he feels that more number of, and better method of, health education is necessary.

Opinion about the performance of workers under the Male Sr. Health Assistant's supervision

When asked to express his opinion about the seven Jr. H.As under his supervision, he states that the performance of two of the workers is 'excellent', one to be 'very good', one to be 'good' and the other three are rated as 'fair'. The reason stated by him for rating a worker as 'excellent' is:

- a) diligence in work
- b) achieves more than the targets fixed.

The irony of the fact is that the one worker whom he rates as 'good' in performance, is a lady appointed as the male health assistant, who has developed a poor rapport with her counter-parts as well as the Sr. H.A(M). During informal talks, he has clearly mentioned that she does very little work and that her performance is poor. But, while interviewing, he requested the interviewer to mark 'good' just to avoid any conflicts arising later.

And, the three workers whom he states as being 'fair' in their performance, are apparently 'good' in their work. Again, while talking informally, he appears to be appreciative of their performance. Despite his 8 years of work experience as Sr. H.A.(M) he is not able to assess the level of performance of his workers.

Though the Jr. H.As, during personal interviews with each one of them, state that their seniors' understanding of their problems is satisfactory and guidance is 'good', informal talks with each of them reveal that the Sr. H.A.(M) is indifferent to them and their problems. They are forced to rate his guidance as 'good' mainly because the Sr. H.A(M) has been present during the interviews. It has been very difficult to divert his attention or to avoid lingering around those Jr. H.As(M) being interviewed. In his absence, the unanimous opinion has been that he seldom visits the field and his support/guidance to them is inadequate.

Job related Tensions

An inquiry into his job-related tensions with the following working conditions reveals that the male Sr. health assistant seems to be very much tense about his excessive work load. He has moderately high tensions about:

- lack of promotional opportunities,
- conflicting orders,
- ineffective organisation communications,
- feeling of rejection by people',
- being ignorant about superior's expectations, and
- pressure for improving performance.

The Sr. H.A(M) states that he is tense about being rejected by the people, mainly because of the shortage of medicines required for treating minor ailments.

For the better functioning of PHC, the Sr. H.A feels that improved performance of the health workers is essential. He opines that the improvement of services is possible with the improvement in the following aspects (top 4 in order of importance):

1. Training
2. Supply of drugs
3. Promotional opportunities
4. Incentives/Rewards/Prizes

5. Salaries and allowances
6. Level of supervision
7. Nature of work
8. Job security
9. Authority
10. Responsibility
11. Recognition of good work
12. Public criticism of poor work.

Of these aspects, he is satisfied with the present system of training, level of public criticism, existing salary and allowance, nature of work, responsibility and job security.

He states that he does not face any serious difficulties in performing his role. He is fairly satisfied with the guidance received from his seniors. He has been meeting his senior (AMO) once a month; but now with upgradation of the PHC, he expects to meet the Medical Officer almost everyday. According to the Senior Health Assistant (M), generally during such meetings with the seniors, future plans are discussed and a review of the performance is made.

He claims to be free in communicating with his seniors. He is uncertain whether his views are being used by his seniors. Regarding the mode of evaluation of his work by his seniors, he states that the seniors assess his performance through orientation training camps. Generally, the seniors

visit the field and evaluate the performance only when they receive complaints, or when the low target achievement is reported. He states that he does not have much freedom in discharging his duty to the best of his ability. He perceives that his seniors have a fair understanding of his problems and the support he gets in solving the problems is adequate. He is satisfied with his present job.

An analysis of the observation of his activities, as well as his responses to certain motivational issues reveals that the Sr. H.A (M) is an authoritative supervisor who is indifferent to the problems of the Jr. H.As (M). He is quite evasive, seldom visits the field and expects the assistance of a Jr. H.A(M) to prepare his advance tour programme and to collect the reports of the monthly performance. He poses to be busy only on the days of inoculation in the areas reported to be affected with gastroenteritis/cholera cases. He provides very little (in most of the cases none) support to the Jr. H.As and the Sr. H.A(F) in the field activities. Thus, the overall assessment about his activities is that he does not perform his role efficiently despite the fact that he arrives at the PHC at 8.00/8.30 am and claims to start his field work at 8.20 or 8.30 am.

SENIOR HEALTH ASSISTANT (FEMALE)

(Sr. H.A/Lady Health visitor-LHV)

An analysis of the LHV's responses to the 'interview schedule'/guide used to gain knowledge about her attitudes to the staff and activities reveals the following findings.

MCH care, family planning services, and primary medical care are perceived by the LHV to be the important objectives of the PHC.

She perceives supervision of ANCs, PNCs, imparting of health education and conducting immunization clinics as her major roles to achieve PHC objectives.

She thinks that better performance of certain workers is due to their interest and committed nature, while some do not work because of their lazy and indifferent attitudes.

The targets for family planning are based mainly on the eligible couples currently registered. LHV's are assigned the role of fixing the target for Jr. H.A (F) under their supervision. She feels that target fixation is necessary for better performance.

Opinion about the performance of Junior Health Assistant (F) under LHV's supervision:

Of the seven Jr. Health Assistants whom the LHV supervises she ranks 3 H.As as good, 2 as fair 1 as excellent and 1 as poor. When asked about the reason for assessing a worker as poor and another as excellent, the reasons stated are as under:

Jr. Health Asst.	Rate	Reason
1. HW No. 7	Poor	False diary; seldom visits to the field
2. HW No.6	Excellent	Prompt in her work, well maintained, accurate records and registers.

Regarding the pattern followed for supervision, she states that her supervisory visits are mainly concurrent and occasionally surprise visits. She has a planned/advance tour programme, which is changed only in case of the outbreak of cholera/gastroenteritis (G.E.) attack in an area, or when a special camp is organized.

Job related tensions

When enquired about her job related tensions with respect to certain conditions of work, her response suggests that she has moderately high tensions in regard to:

- * inadequate authority
- * excessive work load
- * conflicting orders
- * inadequate training
- * ineffective organizational communication, and
- * ignorance of supervisor's expectations etc.

She opines that, considering the performance expected of her, the authority given to her is inadequate. She also expresses her dissatisfaction about ineffective communication between PHC staff and herself, which has resulted in little achievement. Despite the pressure for improving services and more work, she says she is satisfied with her job.

For improving the services of the PHC, she feels that the following aspects are important (in descending order):

1. Training
2. Level of supervision
3. Adequate supply of drugs
4. Responsibility
5. Recognition of good work
6. Nature of work
7. Job security
8. Incentives/Rewards/prizes
9. Promotional opportunities
10. Salaries and allowances

11. Authority

12. Public criticism of poor work.

Of these 12 aspects, she expresses her satisfaction with her training, salary and allowances, nature of work, level of supervision, responsibility and authority.

The LHV's contact with a Jr. H.A (F) is weekly or fortnightly. During such meetings, she reviews their work. After discussing about ANC, PNC, family planning cases etc., she accompanies a Jr. H.A (F) in her home visits and supervises as well as suggests measures for solving problems if any. Once met in the field the LHV always would spend the working hours with that Jr. H.A(F), till the work for the day is completed. She emphasises the quality of performance (cases) not merely the achievement of targets.

The LHV states that the Jr. H.As share their ideas with her. If found appropriate, she pursues such ideas and implements in the most suitable manner.

Community Participation

LHV states that she involves the community by contacting leaders, specially women, dais at village level (for motivating eligible couples) and train them in conducting deliveries. Through the leaders, she convinces the people about MCH care, immunization, hygiene and health activities.

As regards her opinion about the level of community participation, she states that of the seven subcentres assigned to her, community participation in two subcentre villages has been good, and in other subcentre villages it is moderate. And, she opines that illiteracy is the major factor acting as a constraint in achieving better community participation in the rural areas; availability of the facilities of private clinics in urban areas is also a constraining factor. She further states that health education can, to a great extent, help in solving this problem.

Problems in performing the assigned role and mode of evaluation

The LHV states that she does not encounter any serious difficulties while in the field, but does face many problems in performing her role in a satisfactory manner. Since the posting of a new AMO to this PHC (1 1/2 years back), she feels she has suffered much, mainly due to lack of administration by AMO and lack of cooperation by PHC staff. She has tried to solve the problems by discussing with the AMO, but in vain.

She also states that the Sr. H.A (M) has not been very much cooperative. She has been able to work quite efficiently because of adequate support of the Jr. H.As (male as well as females). She is satisfied with the guidance received from her immediate supervisor (District Nursing

Supervisor). She meets her supervisor once a month during the meeting. During such meetings, the discussion centres around registers and immunization. She is quite free in communicating with her seniors. She also believes that her views, when found practical, are used.

Senior officials, while on field visits, occasionally supervise her activities and evaluate the performance of Jr. H.As (F) and Sr. H.A (F), check the diaries of the LHV and also visit some households to cross-check the activities of the LHV. As regards the extent of freedom enjoyed by her to discharge her duties best, she states the immunization programmes are done as designed or planned by her.

As regards the extent of seniors' understanding of her problems, she rates their understanding as 'moderate', while the support she gets to solve the problems as 'inadequate'. Because of all the problems (especially due to the AMO, who never visits the field) and consequent unpleasant incidents, performance has suffered.

Being basically a sincere, committed worker, the LHV is found to be quite efficient especially considering various shortcomings in administration (like lack of drug supply, equipments etc.) She appears to have built a very good rapport with Jr. H.As, so much so that all of them appreciate the level of her understanding of their field problems as 'high' and guidance in their work as 'excellent'. Such

remarks are expressed by the Jr. H.As (F), not only while interviewing them but also during informal talks. This LHV, thus sets a very good example of an effective supervisor.

JUNIOR HEALTH ASSISTANTS

An analysis of the responses of the junior health assistants to the attitude questionnaire is presented below:

Junior Health Assistants (Male)

The perception of the Jr. H.As (M) about the objectives of the PHC varies widely. While malaria eradication and health education are generally ranked higher, 3 or 4 of the six Jr. H.As do not even mention 'MCH', and 'safe drinking water'. Family Planning has been assigned a rank ranging from 2 to 5 among the ten objectives of the PHC.

Four of the six health workers claim to spend much of their service time on communicable disease control (inclusive of malaria), while the remaining two state that they spend much time on family planning. It appears that according to their own assessment, these workers spend 17-40% of their time on family planning, and a large proportion (18-50%) of their time is spent on communicable disease control. (See Table 19).

These male workers were asked to rank certain conditions of work which may help improve implementation of PHC

programmes. Their response show a wide variation in their perceptions. Two workers perceive supply of drugs as first

Table 19

Per cent distribution of working hours on various activities

Sl. No.	Activities	Per cent distribution Health Worker No.					
		1	2	3	4	5	6
1.	Family planning	33.4	40	18.3	36.4	30.7	16.7
2.	MCH services	-	-	9.7	-	3.8	16.7
3.	Immunization	-	5	9.7	9.1	15.5	4.1
4.	Nutrition	-	-	-	-	3.8	4.1
5.	Control of communicable diseases	42.6	50	38.7	18.1	19.3	33.3
6.	Collection/Registration of vital events	7.5	-	9.7	9.1	3.8	7.5
7.	Environmental sanitation	5.5	-	-	9.1	3.8	7.5
8.	Primary medical care	5.5	5	9.7	9.1	3.8	4.1
9.	Record maintenance	5.5	-	3.2	9.1	15.5	6.0
Total		100.0	100	100.0	100.0	100.0	100.0

condition, one as training, and another as recognition of good work, another as nature of work, and yet another as level of supervision.

When questioned about the constraints to the successful implementation of PHC programmes, all opine that inadequate supply of drugs is a major constraint. Shortage of necessary registers for recording purposes, and lack of continuous health education programmes are stated to be the other major constraints.

Remedial measures suggested are:

- prompt and adequate drug supply,
- provision of a first aid kit,
- regular provision of necessary registers,
- provision of transport facility at least, during emergencies and immunization camps, and
- more effective health education programmes.

Jr. Health Assistants (Female)

The Jr. Health Assistants (Female) generally perceive MCH and family planning as the leading objectives of the PHC. Surprisingly, most of them do not even mention malaria eradication, school health, and environmental sanitation as objectives of the PHC.

Five of the seven female workers claim to devote most of their service time on MCH followed by family planning, and immunization. (See Table 20).

Table 20

Time Allocation (Per cent) for Various Activities

Sl. No.	Activity	Time allocated (%) by						
		1	2	3	4	5	6	7
1.	MCH services	37.5	37.9	17.6	22.9	29.7	53.7	32.5
2.	Family Planning	18.8	25.5	26.5	22.9	29.7	9.0	16.2
3.	Immunization	9.4	6.5	8.8	11.4	14.7	3.0	16.2
4.	Nutrition	4.6	6.5	8.8	5.7	14.7	3.0	8.1
5.	Control of communicable diseases	9.4	6.5	13.3	17.1	-*	4.5	8.1
6.	Collection/Registration of vital events	9.4	1.1	4.4	5.7	7.5	4.5	8.1
7.	Environmental sanitation	-	-	8.8	-	-	3.0	-
8.	Primary medical care	4.6	3.2	2.9	2.9	3.7	1.4	5.4
9.	Record maintenance	6.3	12.8	8.8	11.4	-	17.9	5.4
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Simultaneously done with MCH and family planning activities.

According to the female workers' ranking of the conditions of work requiring improvement, in order to achieve better implementation of PHC programmes, the following are considered to be of major importance.

- Training
- Recognition of good work
- Promotional opportunities, and
- supply of drugs.

Inadequate supply of drugs has been stated by Jr. HA(F)s to be the main constraint. Other constraints are:

1. transportation facilities,
2. provision of registers,
3. facilities in the subcentre headquarters, and
4. availability of phenyl and bleaching powder.

All the female workers strongly feel that prompt and adequate supply of drugs is a must if PHC programmes have to be successfully implemented. A transport, at least on immunization days, is another necessity. Monthly field visits by the medical officers (which is a rarity at present) is another measure suggested.

Commuting Distance : A comparison

Distance from residence to workplace is probably one of the significant factors in determining the efficient utilization of time by the workers.

Two male health workers and two female health workers state that they reside near the subcentres assigned to them (distance ranging from 1 to 6 kms for male workers and 0.5 to 5 kms for female workers). The other four male workers state that they reside at a distance of over 15 - 28 kms, while the other five female workers are reportedly residing at a distance of 10-35 kms.

The distance from residence to PHC ranges from 20-32 kms for four male health workers and it ranges from 15-35 kms for 5 female health workers. Two of the male workers reside at a distance of 3 kms and less from PHC, while two of the female workers are stated to be residing at a distance of 3-5 kms.

The distance between PHC and the subcentre villages ranges from 3-13 kms for male health assistants and 2-13 kms for female health assistants. The distance between one village to another village of the subcentre area ranges from 1 - 5 kms.

Job related Tension - A comparison

An analysis of the job related tensions reveals:

In general, the job related tension score is found to be less among female workers than that of male workers. Mean score for male is 21.3 while that for female is 17.9. The difference between these means is found to be statistically significant. This may be mainly because of the attitude of

these women workers to accept the existing situation and work towards achieving PHC objectives, rather than complaining, which they perceive to be a waste of time.

Table 21

Job Related Tension Score of Junior Health Assistants

Health worker	Category	
	Male	Female
1	20	20
2	23	16
3	19	18
4	23	16
5	23	21
6	20	18
7	-	16
Mean	21.3	17.9
S.D.	1.86	2.04
t = 3.19		

Job satisfaction - A comparison

An analysis of the job satisfaction scores of the males and females, reveals that the job satisfaction is fairly high, and that there is no statistically significant difference in their levels of job satisfaction. (See Table 22).

Table 22

Job Satisfaction Score of
Junior Health Assistants

Health workers	Category	
	Male	Female
1	28	26
2	22	28
3	25	30
4	28	22
5	23	26
6	28	24
7	-	29
Mean	: 25.7	26.4
SD	: 2.73	2.81
t = -0.493		

V. CASE STUDIES

1. MAL-UTILIZATION OF HEALTH MANPOWER

i. A Case study of a Pharmacist

A pharmacist in Primary Health Units (PHUs) Primary Health Centres (PHCs) is normally appointed to: (i) dispense medicines/drugs as per the prescriptions given by the medical officers, and (ii) maintain a record of no. of outpatients treated (as also the no. of inpatients, where beds are provided and inpatient treatment is given).

In the PHC Kunj under study, it was observed that the pharmacist spent very little time on dispensing drugs. He was generally found to be busy with office correspondence or certificate work. He was sent to the treasury to submit the pay bills of the PHC staff and later to collect the salary cheques. This could be attributed to the fact that this PHC has no clerical staff to perform this function. His job appears to involve too many trips to treasury.

A general observation of the pharmacist's activities during the study period revealed that:

- a) He never arrived at the PHC by 9.00 am, the official hour of starting the activities at PHC. He generally arrived after 10.30 am. On certain days he arrived even after 12.00 noon.

- b) Though he was asked to prepare the pay bills of the PHC staff because of the lack of clerical staff, he seldom did this (as observed during the period of the study). He assigned this job to 'Stipendary graduates' posted to this PHC a year before. He would only check the bill, once it was prepared.
- c) As Administrative Medical Officer himself dispensed drugs after examining patients, the role of the pharmacist in dispensing the drugs was limited. He was seen to be dispensing the drugs only in the absence of the medical officer.

Analysis of the work sampling data (See Table 23) reveals that: 1) of the 81 rounds made, he was absent for 38 rounds (47%); i.e. he had not arrived at PHC when these rounds were made. It might be significant to mention that these were invariably the first round (generally 9.00 - 10.15 am), 2) about 15% of his time was spent on his official trips to treasury, government medical stores or district health office, 3) about 12% of the time he had been idle or socializing with staff or visitors, 4) about 5% of the time had been devoted to office administration (like preparing bills and correspondence), and 5) only about 14% of the time was spent on activities assigned to him as per his designation (i.e., dispensing drugs and interacting with AMO).

He was observed to extract more work from the three group 'D' staff than the AMO himself, who is supposed to be managing the PHC as such. And, he was found to spend very little time for the work he was assigned to the PHC. As he was found to be hailing from a business community, it was likely that he was too busy attending to the family business. The main idea of recruiting a person for the post of Pharmacist, with the minimum qualification of D. Pharm (two years course after ten years of schooling) is that he is knowledgeable about the drugs. It is not clear as to why dispensing drugs by pharmacist in this PHC has assumed such a low priority.

With recent modifications in employment rules that all medical certificates (when applied sick leave) and physical fitness certificates (for prospective candidates seeking employment in various companies or organizations) have to be certified by a government medical officer, there started quite a rush to this PHC. As such a considerable time was spent by the Pharmacist (as also by the para medical worker) in enquiring with the people about the illness they suffered, no. of days not attending to the office, date of reporting for duty etc.

Even the officials from the District Health Office or Directorate of Health & Family Welfare do not appear to question this situation, during their so called 'Inspection of PHC'. Their main idea during their visits to the PHC appeared to be to find out whether the set targets for

various programmes were achieved (especially malaria eradication, family planning and immunization programmes). On their visit, they would check the attendance register and various charts showing the extent of targets achieved. If these officials also ascertain whether each staff's performance is in relation to his/her job responsibility, there are chances of better performance by employees like the Pharmacist, who currently devotes more time on the roles not assigned to them.

Table 23 : Pharmacist's Time Utilization Pattern

Sl. No.	Particulars	Rounds	
		No.	%
1. a)	Away on official work	12	14.8
	b) Away on personal work	2	2.6
2.	Dispensing drugs	7	8.6
3.	Certificate work	3	3.7
4.	Office administration related work	4	4.9
5.	Interaction with AMO	4	4.9
6.	Government holiday	4	-
7.	Administering inspection	1	1.2
8.	Idle/Socializing	10	12.4
9.	Absent	38	46.9
Total		81	100.0

ii. A Case Study of a Para Medical Worker (PMW)

Among the many pra-medical staff appointed for the implementation of PHC programmes, Para Medical Worker is one.

A Para Medical Worker is generally

- 1) trained for leprosy treatment for six months, by the relevant officials at the Directorate of Health and Family Welfare Services immediately after his appointment;
- 2) expected to work at the subcentre villages. His headquarters is PHC, he is to plan every month (in advance) about the villages he has to visit for the month (those covered under the PHC), based on the statistics collected about the number of leprosy patients;
- 3) expected to visit these patients regularly at their houses, examine the extent of seriousness, dispense tablets at regular intervals, and make follow-up visits also at regular intervals;
- 4) is expected to be at PHC headquarters only once a week (a specified day) for dispensing tablets to those patients/relatives of the patients who visit the PHC.

During the study period in Kunj PHC, it was observed that the Para Medical Worker seldom visited the subcentre villages assigned to him. He is expected to be at PHC only on Tuesdays. Of the 30 days of work sampling, he visited a

village only one day. He did prepare an advance tour programme every month and hung the same on the wall, but was always at PHC. His absence from PHC for official reasons included:

- a) monthly meeting at another taluk headquarter (Para-Medical Workers of various PHCs/PHUs of Bangalore urban district are to attend the meeting at this taluk headquarters on the fourth working day of every month). Their salaries are also disbursed on that day.
- b) his trip to Reserve Bank of India, as instructed by the Medical Officer, to collect the cash for salary disbursement at PHC.
- c) Assistance to the Medical Officer and team in reaching the cholera affected area and administering inoculation.

An analysis of the work sampling for 30 days revealed that much of this para-medical worker's time utilization was not related to any productive activity. As can be observed from Table 24, of the 90 rounds covered, as much as 30% of the rounds he was found absent. These rounds were generally the first round for the day, and he had not arrived during that time. He was observed to arrive only after 10.00 am. He was found to be devoting his activity time on certificate work (enquiries, filling in etc.,) for about 15% of the total rounds conducted; he was found to be idle for 21% of the rounds; was away on official work for about 11% of the

Table 24 : Time Utilization Pattern of the
Para Medical Worker

Sl. No.	Activity Particulars	Rounds	
		No.	%
1.	Absent	28	31.1
2.	Certificate work	14	15.6
3.	Collection of blood smears	3	3.3
4.	Away - on official work	10	11.1
	on personal work	2	2.2
5.	Record maintenance	4	4.4
6.	Interaction - AMO	2	2.2
	LHV	2	2.2
7.	Administering inspections	2	2.2
8.	Dispensing drugs	2	2.2
9.	Idle/socialising	20	22.2
10.	Office correspondence	1	1.1
Total		90	100.0

rounds; was found to be updating his records for 4% of the rounds; dispensing drugs for 2% of the rounds and collecting blood smears for 3% of the time. Thus, only 24% of the rounds he was found to be doing something related to health activity.

A glance at his record book, which indicates the quantitative output of his performance, showed that he

A glance at his record book, which indicates the quantitative output of his performance, showed that he recorded as having visited a particular village, dispensed drugs and then arrived at PHC and working till evening. But, whenever asked informally as to whether he arrived at PHC from his residence or from his field work, he stated that he came from his residence. Added to this, when the observers went to the various subcentre villages to observe the work of Junior Health Assistants, it was reported that the villages with leprosy patients complained that it was a long time (over 6-7 months) since the para-medical worker visited their villages. The general impression was that the Para Medical Worker, who had earlier been serving at this PHC, was regular in his visits and in dispensing the tablets. The present Para Medical Worker, transferred to this PHC a year ago, seldom visited the field. The Junior Health Assistants (male and female) also stated that they were tired of hearing these complaints from the villagers.

The Jr. H.As. claimed to have mentioned this matter several times to the Medical Officer, who appeared to ignore this issue. He not only had never cautioned or warned this Para Medical Worker (PMW) for his continuous presence at the PHC, but also was found to specifically ask him to come to PHC on certain days. Even the officials (District Health Office/Directorate) who visited PHC for inspection, appeared to have overlooked his presence. During the period of the study, state level officials had twice visited this PHC.

They were particular about the targets, but never questioned the presence of the Para Medical Worker at the PHC, when he was expected to be visiting the villages assigned to him.

When a person is recruited for a particular position with a certain responsibility, he is expected to perform these functions relevant for it. Such division of work for each employees with specified training would facilitate the effective implementation of the PHC's programmes. But if a person, who is to work in the field visiting patients at their houses and do the needful, is all the time found to be at the PHC headquarters only, it is a waste of both human and financial resources.

2. JUNIOR HEALTH ASSISTANT (MALE)

A Case Study

Mrs. D.S. was recruited as a Junior Health Assistant (Male) during 1960. Strangely, she was the only lady (male assistant!) among others in the same category. She has been working in the department for about 30 years and in the present PHC since 1980.

Neither she nor any of the health personnel could explain why she is working as a male worker.

During the visits to the PHC for a period of three months, it has been observed that Mrs D.S. generally arrives between 8.00 - 8.30 am and signs the register. Except on two or three days prior to the sterilization (family planning) camps, she hardly leaves the PHC for field work. She generally visits a particular family residing near the PHC, spending most of the working hours talking to the members of that family. This fact came to the knowledge of the observers, when they were sent with her to record the time spent on her activity. It was stated that, she would normally visit some of the area designated for her and return to this specified house with the observer.

Because of her evasive attitude, she was quite apprehensive about the observer coming with her to the field area. When contacted her initially to explain about the objectives of the study on Time Utilization, and to approach

her for cooperation, for the successful completion of the study, she expressed that she would like a person, well known to her, as an observer of her activities. When informed that she could not take anybody of her choice as an observer, but only those assigned as observers, she expressed her dislike immediately.

Despite her apprehensiveness, the observation of her activities, as well as of other Junior Health Assistants' activities was started from 16th May, 1991. But, try as much, she was not available to the observer on 16th May. However, the observer managed to meet her the next day at the PHC, by arriving there before her arrival. To discourage the observer, she made him walk 9-10 kms (even though the bus service is quite frequent), assuming that (because of this inconvenience) the observer would not accompany her from the next day. To her disappointment, the observer continued to accompany her. She was apprehensive of being observed, mainly because she was forced to do the field work, which, otherwise is generally avoided.

During the days of observation, it was found that the service time (See Table 25) as such ranged from as low as 46 minutes to as high as 155 minutes (except for one day when there was a family planning camp, the service time was 390 minutes). Of the total activity time, the time spent on walking and travelling (from PHC to the village or village to village) ranged from 5 - 43%, and time spent on personal work (refreshment, general talk, idle, away from workspot) ranged

from 16.6% to as high as 57.5%. An analysis of the time utilization of Mrs DS during observation days, in various health activities reveals that:

- The time spent (during working hours on personal work) including being idle and casual talk) is more than 30% of the total activity time for the eight days (no. of days observed was 12), and of these eight days, on two days, the personal time was over 55% of the total activity time.
- She never worked for 6 hours, which is supposed to be the expected working hours for field staff. Thus the unspent time (expected working hours minus the activity time) ranged from 105 to 240 mts.
- The male health assistants are expected to concentrate more on control and eradication of malaria and communicable diseases, as well as environmental sanitation and less on family planning and MCH activities. A lower target was usually fixed for Jr. HAs(M) regarding family planning and MCH activities, than that applicable to Jr. H.A.(F). Mrs DS was found to spend much of her service time (about 50-70% of her service time) on family planning activities only (See Table 26). This, in many cases resulted in lowering the productivity of her counterparts (Jr. HAs (F)) in the same area of operation, who are expected to achieve a higher target.

After observing for twelve days, it was felt that, having known the trend of her time utilization in various activities, it was not worth continuing the observation. It was decided to drop Mrs. DS from the list of workers to be observed.

To facilitate cross-checking, Mrs. DS was given two of the observation schedules, and was requested to record the time she spent on the various components of health activities and return them after completion. She did not care to return them. Three other Jr. HAs (M) were also given the self-logging schedules for recording the time spent on each service for a certain period, and they duly returned the same after recording the time.

A discussion with her counterparts and the supervisor also revealed that she spent very little time on field work, and whatever little time was devoted to field services, was mostly spent on family planning. She was seldom available in the field during the Sr. Health Assistant's visit to her field area. Her interactions with the Jr. Health Assistants (F) of her area was rather poor.

Due to poor record maintenance of this health worker, no information on service output (productivity) could be collected. Even while attending the monthly meetings at PHC, she was found reporting to the Sr. Health Assistant (M) from what she was writing in a piece of paper. All her counterparts were found to be maintaining upto-date informa-

tion in their register and getting them checked and signed by their Sr. HA. When questioned about this Jr.H.A her supervisor, commented on this particular worker's negligence in maintenance of diary and registers. He stated that as she was always bent on unnecessary arguments and was unreasonable, he had decided to be indifferent in her case merely to avoid scenes.

Table 25 : An Analysis of Time Utilization

Day	Time Utilization (Minutes)			
	Activity	Service	Walking*	Personal
1	245 (100.0)	145 (59.2)	20 (8.2)	80 (32.6)
2	237 (100.0)	115 (48.5)	62 (26.2)	60 (25.3)
3	205 (100.0)	155 (75.6)	15 (7.3)	35 (17.1)
4	230 (100.0)	99 (43.0)	90 (39.2)	41 (17.8)
5	230 (100.0)	111 (48.3)	57 (24.8)	62 (26.9)
6	230 (100.0)	114 (49.6)	45 (19.5)	91 (30.9)
7	495 (100.0)	390 (78.8)	-	105 (21.2)
8	255 (100.0)	89 (34.9)	68 (26.7)	98 (38.4)
9	90 (100.0)	50 (55.6)	25 (27.8)	15 (16.6)
10	250 (100.0)	80 (32.0)	85 (34.0)	85 (34.0)
11	200 (100.0)	75 (37.5)	10 (5.0)	115 (57.5)
12	120 (100.0)	46 (38.3)	40 (33.3)	34 (28.4)
Total	2,787	1,469	517	801
Average	232	122 (52.6)	43 (18.5)	67 (28.9)

Note: Figures in brackets indicate the percentage to total activity time of that particular day.

* Walking includes stenciling and travelling from one village to another.

Table 26 : An Analysis of Service Time

Sl. No.	Service area	Time Devoted	
		Minutes	%
1.	Malaria eradication	150	10.2
2.	Communicable disease control	49	3.3
3.	Environmental sanitation	-	-
4.	Immunization	20	1.4
5.	Family planning	847	57.7
6.	MCH	10	0.7
7.	Vital events	28	1.9
8.	Nutrition	99	6.7
9.	Minor ailments	160	10.9
10.	Team activities	88	6.0
11.	Record maintenance	18	1.2
Total		1,469	100.0

3. INACTIVE JUNIOR HEALTH ASSISTANT (Female)

A Case Study

All staff at PHC headquarters were covered by the work sampling method. One of the Junior Health Assistants (Female) (Jr.H.A-F) was generally found to be working at the PHC. Hence she was also included in the work sampling.

At the beginning of the study, this Jr. HA (F) created an impression that she was posted for the PHC Headquarters and hence she was working there. But, after a week at PHC, it was clear that she was also to work in the field. She was assigned to a subcentre itself. It was observed that she has seldom visited her area and was mostly found at the PHC. Though the PHC was supposed to start functioning at 9.00 am she was found to be arriving (generally) only after 9.30 am, despite the fact that she resided just at 5 kms distance.

When enquired about the low performance at her area as a consequence of her presence at the PHC, she merely stated that she could not help that because she was working at the PHC as required by the medical officers. But try as much, neither of the medical officers was prepared to agree with this statement. However, without dealing much with her determined stay at PHC headquarters, she was included in the work sampling study and not in the 'observation study', as she was mostly found at PHC.

Of the 71 rounds covered by work sampling for this female health assistant, she was found to be absent from the workspot (21% of the time), idle (28%), away on official work for (17%), and assisting AMO/LMO (23%) (See Table 27 below).

Table 27 : Time Utilization of Female Health Assistant

Activity	No. of Rounds	Per cent
1. Assisting AMO/LMO	16	22.5
2. Away - official	12	16.9
Personal	1	1.4
3. Absent	15	21.2
4. Idle/Socialization	20	28.2
5. Record maintenance	3	4.2
6. Interacting with District Malaria Officer	1	1.4
7. Personal work	1	1.4
8. Other activities	2	2.8
Total	71	100.0

Thus, she was found to be busy with health related activities for about 43% of the time.

Only during the last week of the study period, she was visiting her field area, because during the monthly meeting, she was specifically asked by the DHO to visit the field

regularly and work there. She was permitted to work at the PHC headquarter only on Thursdays (Day of ANC clinic at the PHC).

Time Allocation for Various Activities.

This Jr. H.A. claimed to spend most of her time, while on field visits, on MCH. She stated that she spent about 3 hours on this programmes. She spent 1/2 hr on family planning activities, 10 minutes each on immunization, nutrition, and environmental sanitation, 15 minutes each on control of communicable diseases and registration of vital events, 5 minutes on primary medical care and about an hour on record maintenance.

But based on the work sampling analysis, it was found that she was away on field visits only for 12% of the total service time. Generally, three to four rounds a day were made to assess the work of the para-medical staff. It is clear that she visited the field area for only 4 days during the entire study period. Also, while on field work, as mentioned by her superior (LHV), she concentrated more on family planning activities (motivation and contraceptives distribution). And she, never maintained a record of her field work. She only noted the cases visited etc., in her diary. Thus, on the whole, her statement about time allocation for each activity was a contradiction to what she actually performed. The question that naturally arises is, if she has been found working at the PHC headquarters

mostly, how did she manage to record her daily field performance in her work diary? During one of her inspection visits to PHC, the District Malaria Officer questioned her after checking her diary, about entering that days' activity in the morning itself. After a series of questions, she finally admitted that she had written the diary in advance, without performing those activities!

When the Sr. H.A (Female) was asked about her opinion about the performance of the Jr. H.As under her supervisor, she rated this Jr. H.A's performance as 'poor'. Her reasoning for such a rating was that this Jr. H.A seldom visited the field. As such her diary, and record were not reliable.

Considering the fact that this Jr. H.A(F) resided just 5 kms from the PHC as well as subcentre area, she could perform her services more actively with existing facilities. She was asked to visit the field in the morning (from 8.00 am) and to work at the PHC in the afternoon. But it was observed that she either worked at the PHC the whole day, or attended to field visits in the mornings and left for residence by 1.00 pm or 1.30 pm. It can be thus said that this Jr. H.A (F) could perform services more actively by scheduling/planning her work in an organized manner with due attention to field activities and PHC activities. The subcentre she was assigned to, being the nearest to the PHC (2.5 kms), she could very well manage to attend to her field work in the

morning (at least for 3 hours; i.e. 8.00 to 11.00 am) and work at the PHC later.

4. A Case Study of An Active Junior Health Assistant (Female)

Mrs. S, has been working as Junior Health Assistant (Female) since 1978. She has been posted to this PHC since 1987. Though she has not been successful in her secondary (SSLC) examination, she is found to have the ability to grasp quickly what is explained to her. She is a committed worker.

She never posed a problem during the period of observation. Even on the first day of observation, when the observer had not met her earlier, he could find Mrs S, in the village (as stated in her advance tour programme) without any difficulty. She was extremely cooperative with the observers. Her activities were observed for 38 days. During the period of observation, she had not applied for leave any day, unlike her counterparts, who were on leave for 2-5 days.

An analysis of the average time utilization for various activities, showed that 78% of her activity time was spent on providing service, while she had to spend 17% in walking from one area to another and other 5% towards her personal activities. She was assigned to a subcentre with interior villages. Hence, more time was required for walking.

She was found to spend about 1/3 of her service time for family planning activities, and 25% on MCH services.

Thus, family planning activities and MCH services together accounted for about 58% of her service time. She was found to devote about 22% of her service time in providing nutrition and immunization services. For the other components of services she was found to devote 6% and less.

Table 28: Average Time Utilization of Mrs. S

Sl. No.	Particulars	Average Time Utilized	
		Minutes	Percent
1.	Service time	218	77.9
2.	Walking	48	17.1
3.	Personal time	14	5.0
Activity time		280	100.0

No. of days observed = 38.

A talk with the Sr. H.A.(F) revealed that she considered this health worker as an 'excellent' worker as she maintained correct registers and was prompt in her activities. Considering that many of the villages of her subcentre were in the interior area and her time utilization, she may be rated as one of the best health workers.

VI. CORRELATES OF TIME UTILIZATION AND PRODUCTIVITY OF HEALTH MANPOWER

Time Utilization by health manpower in various categories in the PHC has already been studied in great details in the previous chapters. In this chapter, an attempt is made to analyse in depth the data pertaining to Junior Health Assistants, who constitute the largest single category in the PHC.

Table 29, given at the end of this chapter, lists the most important variables included in the analysis. Table 30A presents workerwise data (separately for males and females) on profile of the workers, activity time and its broad break-up in terms of service, walking and personal time, and further break-up of service time according to various components of the PHC's programme.

Correlates of Time Utilization

Average Service time (i.e. the time spent per day on an average for actually delivering the services) is an important indicator of productive time utilization by a worker. It is interesting to study which of the worker characteristics is positively or negatively associated with this indicator. The result of bivariate correlation analysis is presented below:

Correlates of Time Utilization : Zero order correlation
between service time and other variables

Variable	Correlation Coefficient
L : Age	- 0.41 (*)
E : Education	+ 0.25 (-)
T : Training	- 0.43 (*)
Y : Experience	- 0.65 (**)
H : Commuting time	+ 0.41 (*)
J1 : Job related tension score	- 0.02 (-)
J2 : Job satisfaction score	+ 0.33 (-)

(-) Not significant
* Significant at 10% level
** Significant at 5% level

It is noted from the above that each of the variables: age, training and length of experience, is negatively associated with average service time per day. It is possible that with age (and experience) a person's capacity to put in a long day of work reduces. The negative association with training quantity is perhaps merely due to the fact that a worker with a longer experience (or senior age) has also a larger training quantity. The variable commuting time is weakly but positively associated with service time.

Since the variable average service time per day is associated with a large number of characteristics of the worker, a multivariate analysis is attempted with 4 sets of 2 variables each. Only a small number of independent variables is included in the analysis in view of the smallness ($n = 12$) of the sample. See table below:

Coefficient of Multiple Determination (R^2)
Service time (S) and other variables

Dependent variable	Independent variables	Partial Regression Coefficients	R^2
S	Y : Experience	-2.64(***)	0.56 (**)
	J ₂ : Job satisfaction score	2.34(*)	
S	H : Commuting time	0.22(-)	0.52 (**)
	Y : Experience	-2.33(**)	

(-) : Not significant
 * : Significant at 10% level
 ** : Significant at 5% level
 *** : Significant at 1% level

It is evident from the above that just 2 variables 'experience' and 'job satisfaction' (each with a significant partial correlation) explain 56% of the total variation in 'average service time' of the workers. It is possible to

raise productivity and time utilization by engaging younger workers and maintaining their job satisfaction at a high level.

An analysis of the correlates of 'personal time' (unproductive time) reveals the following information:

Coefficients of Multiple Determination (R^2)
Personal time (P) and other variables

Dependent variable	Independent variables	Partial Regression Coefficients	R^2
P	T : Training	1.42 (***)	0.83 (***)
	Y : Experience	0.30 (-)	
	H : Commuting time	-0.07(*)	
P	T : Training	1.46 (***)	0.78 (***)
	Y : Experience	0.37(-)	

- (-) : Not significant
- * : Significant at 10% level
- ** : Significant at 5% level
- *** : Significant at 1% level

It is clear from the above that 'training' and 'commuting time' only explain together as high as 83% of the total variation in 'unproductive/personal time'. it is understandable that a person who has taken a longer time to arrive at the work spot, spends less time for personal reasons or for socializing. but, the significant positive

association of 'training quantity' with 'unproductive time' is difficult to understand, unless of course it is 'revealing' merely the effect of 'age' - since an older person is likely to have attended more training days as a whole.

Estimation of Manpower Productivity

Measurement of productivity of health manpower is difficult because of the multiple outputs of a health worker, coupled with the fact that not all of these outputs are easily measurable. An attempt has been made here to measure manpower productivity of Jr. Health Assistants in the following way. Consider for example, the activity 'collection of blood smears'. We follow the steps for estimating productivity as under:

- (i) Ascertain from the worker (and his supervisor), based on their diaries/service statistics etc.

O = Output = number of cases of blood smears collected during a specific period.

- (ii) Estimate, using observational/work sampling study, the time spent (ET) during the same period for the activity 'blood smear collection'.

- (iii) Compute

AO = average no. of blood smear cases collected per day

Etd = average time (hrs) spent per day on blood smear collection.

- (iv) Estimate 'productivity Per Hour' for blood smear collection as:

$$= AO/Etd = O/ET.$$

Using this approach productivity per hour has been computed for a number of service components of the PHC. This information is detailed in Table 30B (for males) and Table 30C (for females), given at the end of this chapter. A summary of this information is presented below:

Productivity of Health Manpower

Sl. No.	Service component	Productivity per Hour (Average)	
		Male worker	Female worker
1.	Blood smear collection	10.6	15.7
2.	Health talks	3.8	4.6
3.	Iron and folic acid distribution	8.5	11.3
4.	Treatment of minor ailments	5.7	10.0
5.	Motivation of eligible couples for family planning	4.9	12.6
6.	Birth registration	7.1	6.7
7.	ANC registration	-	8.1
8.	PNC registration	-	7.1
9.	Group meetings	-	2.6
10.	Oral pills distribution	-	10.0

It appears that females are more efficient than males in respect of many of the service components. Data are not adequate to test with the statistical significance of the

differences. 'Team productivity' has also been estimated. See Table 30D given at the end of this chapter.

Correlates of Manpower Productivity

Table 30D presents information on a small set of productivity indicators and some related characteristics of the workers. A bivariate correlation analysis of the relevant information reveals the following:

Dependent variable	Productivity Index (Dependent Variable)				
	R1	R2	R3	R4	R5
L	-0.42(*)	+0.39(-)	(-)	-0.48(*)	-0.67 (***)
E	(-)	(-)	(-)	(-)	(-)
T	(-)	(-)	(-)	(-)	-0.50 (**)
Y	(-)	(-)	(-)	(-)	(-)
A	(-)	(-)	(-)	(-)	(-)
S	(-)	(-)	(-)	(-)	(-)
W	(-)	(-)	-0.49(*)	(-)	(-)
P	(-)	(-)	(-)	(-)	-0.44 (*)
C	(-)	(-)	(-)	(-)	(-)
F	+0.45(*)	(-)	(-)	+0.39(-)	(-)
K	(-)	(-)	(-)	(-)	(-)
H	(-)	(-)	(-)	+0.47(*)	(-)
J1	(-)	(-)	-0.54 (**)	-0.52(**)	(-)

Dependent var.	Productivity Index (Dependent Variable)				
	R1	R2	R3	R4	R5
J2	(-)	(-)	-0.44(*)	(-)	(-)
IN	(-)	+0.37(-)	(-)	(-)	(-)
M	(-)	(-)	+0.35(-)	+0.40(*)	(-)
V	(-)	(-)	(-)	(-)	+0.36(-)
N	(-)	(-)	-0.36(-)	(-)	(-)

(-) : Not significant
 * : Significant at 10% level
 ** : Significant at 5% level
 *** : Significant at 1% level

It is apparent that the leading correlates of productivity are:

age, time spent in walking, training quantity, personal time, time spent in family planning activity, time spent in commuting, job-related tension score, job satisfaction score, etc.

An attempt to study the multivariate association of a number of independent variables to each of 5 productivity indicators reveals the following:

Coefficients of Multiple Determination (R^2)
Productivity indices and other variables

Productivity Index	Independent variables	Partial Regression Coefficients	R^2
R1	F Family planning	0.44 (**)	
Blood smears collected	L Age	-0.72 (**)	0.57(-)
	C Communicable diseases	-0.07(-)	
R3	J1 Job satisfaction	-1.39(*)	
F.S distribution	W Walking	-0.41-	0.66(**)
	K2 Job tension	-1.65(*)	
R4	F Family planning	0.39(*)	
Eligible Couples motivated	H Commuting time	0.14(**)	0.56(-)
	J1 Job tension	-1.21 (-)	
R4	L Age	-1.11(**)	
	F Family planning	0.58(**)	0.55(-)
	M MCH	0.15(-)	
R5	L Age	-0.70(***)	
Births Registered	T Training	-0.77(**)	0.72(**)
	P Personal time	1.96(**)	

Productivity Index	Independent variables	Partial Regression Coefficients	R ²
R5	L Age	-0.50(**)	0.59(-)
	T Training	-0.28(*)	
	V Vital events	-0.07(-)	

(-) : Not significant
 *** : Significant at 1% level
 ** : Significant at 5% level
 * : Significant at 10% level.

It is seen from the above that only in case of two productivity indicators there are small sets of independent variables explaining a significant and large part of the variation in it. These are:

- (a) F.S. (Iron and Folic Acid) distribution and
- (b) Birth Registration.

66% of the variation in (a) can be explained by job satisfaction and job-related tension, and walking. Similarly, 72% of the variation in (b) can be explained by age, training and personal time. However, the signs of the net contributions of each of these independent variables are not always in the direction in which these are expected to be. Similar analysis using a larger sample size is necessary, for establishing some of the points mentioned in this chapter.

Table 29

Definitions of Variables

Sl. No.	Variable Name	Definition
1.	L	Age in years
2.	E	Education in years
3.	T	Number of months of training
4.	Y	Experience in years
5.	S	Service time (excl personal time and including walking time) minutes
6.	H	Commuting time (residence to PHC) minutes
7.	J1	Job-related tension score
8.	J2	Job satisfaction score
9.	K	Distance of lsub centre from residence (Kms)
10.	R-1	Productivity of blood smears collection (No. per hour)
11.	R-2	Productivity of health talks (No. per hour)
12.	R-3	Productivity of Distribution of Folic acid tablets (No. per hour)
13.	R-4	Productivity of eligible couples motivation (No.per hour)
14.	R-5	Productivity of birth registration (No. per hour)
15.	N	No. of days observed.

Table 30A

Profile and Time Utilization of
Junior Health Assistants

Health workers	Profile					Time Utilization				
	L	E	T	Y		N	A	S	W	P
	Age	Years of	Training	Experience						
	(Yrs)	education	(months)	Yrs	Months					
<u>Male</u>										
1		11	15	26	2	27	294	218	47	29
2	45	10	3	15	4	33	296	227	50	19
3	41	11	16	19	11	32	279	210	28	41
4	41	11	3	15	2	37	243	154	52	37
6	44	11	15	13	3	10	314	225	47	42
<u>Female</u>										
1	36	10	3	12	3	26	293	246	39	8
2	36	10	3	16	2	40	276	221	38	17
3	52	10	3	22	3	39	262	210	31	21
4	47	10	15	18	4	16	279	211	31	37
5	51	9	3	31	2	39	253	200	24	29
6	37	9	3	13	8	38	280	218	48	14

A = Activity time (average minutes per day)
S = Service time
W = Walking & travelling time
P = Personal time

contd.

Table 30A contd.

Health Worker	Per cent of service time spent on									
	C	I	F	M	V	N	PMC	G	RM	GM
<u>Male</u>										
1.	37.3	0.7	27.3	0.8	1.9	12.4	4.3	4.2	-	9.8
2.	29.1	2.8	41.8	3.1	3.3	5.1	3.3	7.1	2.7	-
3.	24.6	15.3	25.7	6.2	2.9	2.7	6.4	3.4	7.2	1.7
4.	33.7	6.2	31.6	4.6	3.7	7.7	3.3	1.9	2.9	-
5.	44.7	4.6	39.7	0.2	3.6	2.1	4.8	4.5	1.9	-
6.	39.7	0.4	45.1	2.0	5.3	-	0	7.5	-	-
<u>Female</u>										
1.	10.4	6.5	22.1	24.3	4.9	22.4	6.3	1.6	1.5	-
2.	5.9	5.4	48.5	26.9	2.8	2.1	4.6	3.6	-	0.2
3.	6.0	16.2	34.0	22.4	3.8	6.0	3.7	5.8	0.8	0.1
4.	6.2	15.4	42.3	23.5	0.2	0.1	5.0	7.3	-	-
5.	7.2	5.5	49.3	21.6	2.3	0.7	8.3	2.5	2.0	-
6.	6.2	9.8	33.2	24.7	5.0	11.7	4.3	2.8	2.1	-

C : Malaria and other communicable disease control
 I : Immunization
 F : Family planning
 M : Maternal and child health
 V : Vital events
 N : Nutrition
 PMC: Primary medical care
 G : Team activity
 RM : Record maintenance
 GM : Group meetings

Table 30B

Estimation of Health Manpower Productivity of
Junior Health Assistants (Male)

Indicator											
Male Health worker	Blood smear collection						Health talk				
	Total cases		Av. case per day		Produc- tivity per hr.	Total		Av.No. conduc- ted per day		Produc- tivity per hr.	
	N	O	ET	AO		ETd (hr.)	O	ET (hr.)	AO		ETd(hr.)
1.	37	103	16	2.8	0.43	6.5	88	30	2.4	0.81	3.0
2.	33	129	10	3.9	0.30	13.0	81	19	2.5	0.58	4.3
3.	45	105	10	2.3	0.22	10.5	118	49	2.6	1.09	2.4
4.	36	131	11	3.6	0.31	11.6	237	43	6.6	1.19	5.5
5.	37	96	11	2.6	0.29	9.0	68	17	1.8	0.46	4.0
6.	30	156	10	5.2	0.33	15.8	202	50	6.7	1.7	3.9
Total	218	720	68	3.3	0.31	10.6	794	208	3.6	0.95	3.8

N = No. of days
O = Service output during the period observed
ET = Estimated time spent
AO = Average no. of cases per day
ETd = Estimated time spent per day
Productivity - Cases per hour (Blood smears)
 - No. conducted per hour (Health talk).

contd.

Table 308 contd.

Male Health Asst.	N	Iron and Folic Acid distributed					Minor ailments treated						
		Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour		
		O	ET	AO	ETd		O	ET	AO	ETd			
1	37	86	12	2.3	0.32	7.2	27	5.0	0.7	0.14	5.0		
2	33	56	7	1.7	0.21	8.0	-	1.0†	-	0.03	-		
3	45	53	33	1.2	0.07	17.1	32	4.0	0.7	0.09	8.0		
4	36	42	5	1.2	0.14	8.5	-	2.3†	-	0.6	-		
5	37	8	1	0.2	0.03	8.0	14	2.0	0.4	0.05	7 (All) 8 (all days)		
6	30	-	-	-	-	-	11	2	0.4	0.07	5.7		
Total	218	245	28.3	1.1	0.13	8.5	84	16.3	0.4	0.07	5.7		

N = No. of days observed
O = Total cases during observation period
ET = Estimated time spent on the activity for
the period of observation
AO = Average output per day
ETd = Estimated time spent per day
† = General visits

Table 30B contd.

		Motivated eligible couples (Nos.)					Births Registered				
Male Health Asst.	N	Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour
		O	ET	AO	ETd		O	ET	AO	ETd	
1	37	103	21	2.8	0.57	4.9	15	3.0	0.4	0.08	5.0
2	33	179	41	5.4	1.24	4.4	21	2.0	0.6	0.06	10.0
3	45	126	23	2.8	0.51	5.5	29	3.0	0.6	0.07	8.6
4	36	138	31	3.8	0.86	4.4	27	2.0	0.8	0.06	13.3
5	37	137	22	3.7	0.59	6.2	15	2.30	0.4	0.06	6.7
6	30	87	17	2.9	0.57	5.0	12	2.0	0.4	0.07	6.0
Total	218	770	155	3.5	0.71	4.9	119	14.30	0.5	0.07	7.1

Table 30C

Estimation of Health Manpower Productivity of
Junior Health Assistants (Female)

		Indicator										
Female Health Asst.	N	ANC Registered						PNC Registered				
		Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour	
		O	ET	AO	ETd		O	ET	AO	ETd		
1	32	110	12	3.4	0.38	9.0	53	6.0	1.7	0.19	8.9	
2	40	49	7	1.2	0.18	7.0	14	6.0	0.4	0.15	2.7	
3	39	72	10	1.8	0.26	7.0	44	6.30	1.1	0.16	6.9	
4	16	52	7	3.3	0.44	7.5	13	3.0	0.8	0.19	4.2	
5	39	74	8	2.0	0.21	9.5	50	5.0	1.3	0.13	10.0	
6	38	72	10	1.9	0.26	7.3	36	6.0	0.9	0.16	6.0	
Total	204	429	54	2.1	0.26	8.1	210	29.30	1.0	0.14	7.1	

Table 30C contd.

		Health talks conducted (Nos.)					Group meetings conducted (Nos)				
Female Health Asst.	N	Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour
		O	ET	AO	ETd		O	ET	AO	ETd	
1	32	151	24	4.7	0.75	6.3	16	3.0	0.5	0.09	5.5
2	40	11	18	0.3	0.45	0.6	37	21.0	0.9	0.53	1.7
3	39	111	18	2.8	0.46	6.1	14	1.30	0.4	0.03	13.3
4	16	92	11	5.8	0.69	8.4	7	1.30	0.4	0.08	5.0
5	39	81	19	2.1	0.49	4.3	87	21.0	2.2	0.54	4.1
6	38	63	21	1.7	0.55	3.0	4	7.0	0.1	0.18	0.6
Total	204	509	111	2.50	0.54	4.6	165	64.0	0.8	0.31	2.6

Table 30C contd.

		Indicator									
		Iron and Folic Acid distributed					Motivated eligible couples (Nos.)				
Female Health Asst.	N	Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour
		O	ET	AO	ETd		O	ET	AO	ETd	
		1	32	48	8	1.5	0.25	6.0	89	16.0	2.8
2	40	106	7	2.7	0.18	15.0	1340	33.0	33.50	0.83	40.4
3	39	40	5	1.0	0.13	8.0	122	25.0	3.1	0.64	4.9
4	16	41	1	2.6	0.06	43.3	78	12.0	4.9	0.75	6.5
5	39	110	10	2.8	0.26	11.0	155	45.0	4.0	1.15	3.4
6	38	13	2	0.3	0.05	6.0	190	27.0	5.0	0.71	7.0
Total	204	358	33	1.8	0.16	11.3	1974	158.0	9.7	0.77	12.6

Table 30C contd.

Indicators													
Female Health Asst.	N	Births Registered (Nos.)					Minor ailments treated						
		Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour		
		O	ET	AO	ETd		O	ET	AO	ETd			
1	32	27	3.0	0.8	0.09	9.0	20	2.0	0.6	0.06	10.0		
2	40	28	2.0	0.7	0.05	14.0	60	4.0	1.5	0.1	15.0		
3	39	1	3.0	0.2	0.07	0.3	8	1.0	0.2	0.03	6.7		
4	16	-	-	-	-	-	-	1.34	-	0.08	-		
5	39	10	1.3	0.3	0.03	10.0	6	1.3	0.2	0.03	6.7		
6	38	21	2.0	0.6	0.05	12.0	-	0.3	-	-	-		

Total	204	87	11.3	0.4	0.06	6.7	94	10.3	0.5	0.05	10.0		

† General visits

Table 30C contd.

Indicators											
Female Health Asst.	N	Oral Pills distributed (Nos.)					Blood smears collected (Cases)				
		Total		Average		Producti- vity per hour	Total		Average		Producti- vity per hour
		O	ET	AO	ETd		O	ET	AO	ETd	
1	32	13	2.3	0.4	0.07	5.7	28	1.3	0.9	0.04	22.5
2	40	20	1.0	0.5	0.03	16.7	63	2.3	1.6	0.06	27.0
3	39	-	-	-	-	-	8	2.0	0.2	0.05	4.0
4	16	-	-	-	-	-	16	1.0	1.0	0.06	16.6
5	39	23	1.3	0.6	0.03	20.0	64	3.0	1.6	0.08	20.0
6	38	14	1.3	0.4	0.03	13.3	36	4.0	0.9	0.11	8.2
Total	204	70	6.3	0.3	0.03	10.0	215	14.0	1.1	0.07	15.7

N = No. of days
O = Total service output during observation
ET = Estimated time spent on the activity
as observed
AO = Average output per day
ETd = Estimated time spent per day.

In case of Health Talk and Group Meeting
the output is indicated by number conducted
For other indicators, the output is the
number of cases attended to.

Table 300

Distance, Commutation level of tension, Satisfaction and
Productivity of Junior Health Assistants

Health Worker	Distance Residence - SC (Kms)	Commuting time (Mts)	Job Tension Score (J1)	Job satisfaction Score(J2)	Productivity (Per Hour)				
					R1	R2	R3	R4	R5
<u>Male</u>									
1	30	110	20	28	6.5	3.0	7.2	4.9	5.0
2	16	45	23	22	13.0	4.3	8.0	4.4	10.0
3	1	10	19	25	10.5	2.4	17.1	5.5	8.6
4	28	75	23	28	11.6	5.5	8.5	4.4	13.3
5	6	35	23	23	9.0	4.0	8.0	6.2	6.7
6	26	60	20	28	15.8	3.9	-	5.0	6.0
<u>Female</u>									
1	35	75	20	26	22.5	6.3	6.0	5.6	9.0
2	30	105	16	28	27.0	0.6	15.0	40.4	14.0
3	20	60	18	30	4.0	6.1	8.0	4.9	0.3
4	15	30	16	22	16.6	8.4	43.3	6.5	-
5	0.5	15	21	26	20.0	4.3	11.0	3.4	10.0
6	25	20	18	24	8.2	3.0	6.0	7.0	12.0

Productivity: No. of cases served per hour spent on the activity.

Table 30E

Team Productivity

		TEAM														
		1 (n = 77)					2 (n = 49)					3 (n = 84)				
Sl. No.	Indicator	O	ET	AD	ETd	P/hr	O	ET	AD	ETd	P/hr	O	ET	AD	ETd	P/hr
1.	Collection of blood smears	166	18.3	2.2	0.24	9.2	145	11.0	3.0	0.22	13.6	169	13.0	2.0	0.15	13.3
2.	No. of health talks conducted	99	41.0	1.3	0.53	2.5	173	30.0	3.5	0.61	5.7	199	68.0	2.4	0.81	3.0
3.	Fs tablets distribution	192	19.0	2.5	0.25	10.0	97	8.0	2.0	0.16	12.5	163	13.3	1.9	0.16	11.9
4.	Eligible couples contacted/motivated	1443	54.0	18.7	0.70	26.7	257	53.0	5.2	1.08	4.8	281	68.0	3.3	0.81	4.1
5.	Births Registered	43	50.0	0.6	0.06	10.0	-	-	-	-	-	39	4.3	0.5	0.05	10.0

O = Output (No. of cases served)
 ET = Estimated time
 AD = Average no. of cases served per day
 ETd = Estimated time spent on the activity per day
 P/Hr. = Productivity per hour
 N = No. of days observed.

contd.

Table 30E contd.

TEAM											
4 (n = 68)						5 (n = 75)					
Sl. No.	Indicator	D	ET	AO	ETd	P/hr	D	ET	AO	ETd	P/hr
1.	Collection of blood smears	144	13.3	2.1	0.20	10.5	132	15	1.8	0.20	9.0
2.	No. of health talks conducted	388	67.0	5.7	0.99	5.8	131	38	1.7	0.51	3.3
3.	Fs tablets distribution	90	13.0	1.3	0.19	6.8	21	3	0.3	0.04	7.5
4.	Eligible couples contacted/motivated	227	47.0	3.3	0.69	4.8	327	49	4.4	0.65	6.8
5.	Births Registered	54	5.0	0.8	0.07	11.4	36	4	0.5	0.05	10.0

VII. SUMMING UP : IMPLICATIONS FOR MANAGEMENT

This indepth study of a Karnataka PHC has revealed that on an average 33 per cent of the professional health manpower's time (of 360 minutes) is wasted. Percentage of wasted time varies across the various professional categories:

Category	% unproductive time	No. of personnel in the category
Medical Officer (AMO)	55	1
Male Health Supervisor (Sr. H.A. (M))	47	1
Female Health Supervisor (Sr. H.A. (F))	38	1
Female Health Worker (Jr. H.A. (F))	33	7
Male Health Worker (Jr. H.A. (M))	32	7
Lady Medical Officer (LMO)	22	1
Weighted Average	33	

Some other recent studies estimated the unproductive time of manpower in PHCs ranging from 50% (Kataria and Srivastava, 1986) to 62% (Satpathy, 1988). In the light of these estimates, it appears that the figure of 33% unproductive time in the PHC studied is indicative of better overall time utilization pattern than in the studies cited.

It is of interest to study the economic implications of the prevalent wastage of health manpower's time, considering only the gross salary payable to an employee in the category, and the present level of wastage of professional's time, the money value of the wastage of productive time turns out to be as under:

Category	No. in Category	Estimated total annual wastage
A M O	1	Rs.36,023
L M O	1	Rs.14,792
Sr. H.A. (M)	1	Rs.20,829
Sr. H.A. (F)	1	Rs.17,779
Jr. H.A. (M)	7	Rs.82,252
Jr. H.A. (F)	7	Rs.66,389
Total	18	Rs.238,064

It appears from the above that a sum of Rs.2.4 lakh is wasted every year in this PHC because of unproductive use of health worker's time. In addition to this, there are of course other opportunity costs caused by unproductive or improper use of health professionals' time:

- non-achievement/delay in realising programme objectives, and
- wastage of other resources such as bed, equipment, laboratory facility, etc.

The study reveals that a high proportion of time is spent by the field staff on family planning programme, while programmes such as health education, environmental sanitation, etc. get very little attention. This is probably affecting adversely the realization of overall goals of a Primary Health Centre.

An attempt should be made to improve the time allocation by the staff to various programmes through actions such as:

- emphasizing this aspect in training programmes;
- setting quantitative targets in respect of most programmes; and
- monitoring achievement of (not only family planning and immunization) but every component of a PHC's programmes.

The indepth case studies of selected workers clearly bring out the potentials of raising manpower utilization through

- toning up of the overall management of the PHC especially the managerial styles of Medical Officers and Supervisors;
- inculcating a team spirit among the PHC Staff through team training;
- ensuring appropriate use of professionals in the jobs for which they are trained;

- monitoring of performance of health supervisors (Sr. H.As. by the Medical Officials) and of Health Workers (Jr. H.As by their respective Supervisors), based on records and periodic field visits by the Medical Officers;
- developing an objective performance appraisal system, review of workers' performance in monthly meetings, and a performance-linked incentive system;
- making living accommodation (government /rented) available to subcentre staff in the subcentre village; and
- improving staff mobility (and reducing commuting time) through provision of two-wheelers to the field staff, and a jeep for use of the Medical Officers and PHC headquarters staff.

The study reveals low to moderate levels of productivity of time resources for most workers and categories:

Productivity Index (per hour spent in that activity)	CATEGORY			
	AMO	LMO	Jr.HA(M)	Jr.HA(F)
1. No. of out-patients attended	12	16		
2. No. of blood smears collected	-	-	10.6	15.7
3. No. of health talks	-	-	3.8	4.6
4. No. of cases given Iron & Folic acid tablets	-	-	8.5	11.3
5. No. of cases given treatment for minor ailments	-	-	5.7	10.3
6. No. of couples motivated for family planning	-	-	4.9	12.6
7. No. of ANC's registered	-	-	-	8.1
8. No. of PNC's registered	-	-	-	7.1
9. No. of group meetings conducted	-	-	-	2.6
10.No. of cases given oral pills	-	-	-	-

It is possible to raise the productivity of time, in respect of each category, by

- ensuring that the staff members in each category are given pre-service and in-service training in the tasks assigned to them;
- making all the necessary drugs, equipment and supplies (including forms and registers) available to the staff in adequate quantities; and
- maintaining a high level of performance motivation in the staff through appropriate actions.

Job related tension caused by logistic inadequacies (shortage of drugs, non-availability of transport, unsupportive supervision, etc) have to be removed or mitigated by streamlining the current systems and procedures in respect of these.

Job satisfaction is an important determinant of time utilization and productivity, and an attempt has to be made to raise it through training, improved inter-personal relations, effective support services, etc.

Time utilization and productivity of manpower in PHCs can be raised by taking the actions elucidated above, and by instituting in the minds of Medical Officers, Supervisors and the Workers, a serious concern for achieving results (high productivity and quality of care) so that success can be achieved in reaching the goal of Health for All by the year 2000.

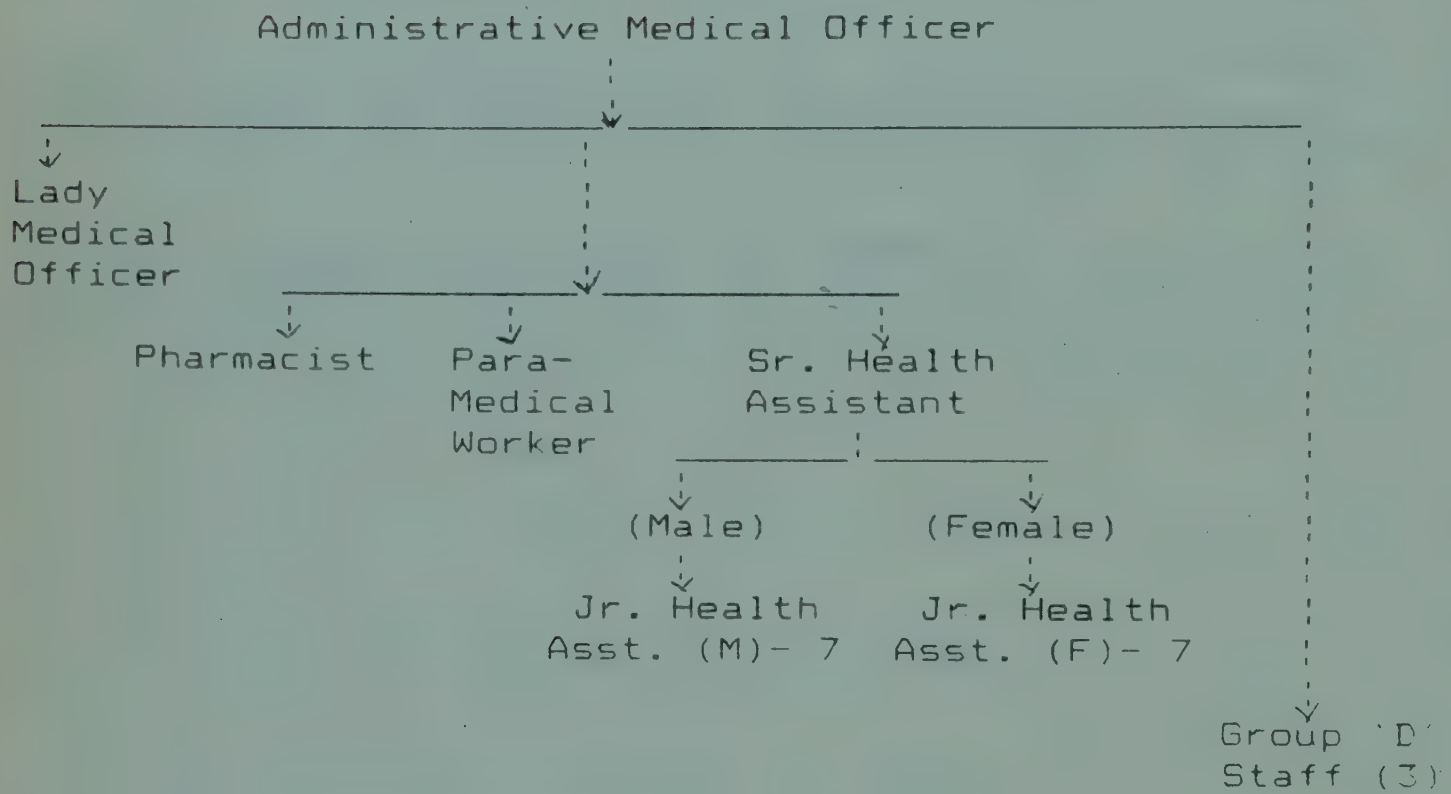
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INDIAN INSTITUTE OF MANAGEMENT, BANGALORE

Kunj Primary Health Centre

ORGANIZATIONAL STRUCTURE



INDIAN INSTITUTE OF MANAGEMENT, BANGALORE

OBSERVATION SCHEDULE

Senior Health Assistant

Name :

Date:

Day:

Activity	Time intervals	Duration
1. Travelling form		
a) residence to the village	() kms	
b) residence to the PHC	() kms	
c) PHC to the village	() kms	
2. Su0pervisory Activity		
- House visit		
i) MCH Care		
- ANC registration		
- PNC registration		
- OI registration		
- TT registration		
- FS distribution		
ii) Immunization		
BCG vaccination-new born		
DPT vaccination - initial		
- booster		
Polio mylitis - initial		
- booster		
iii) Family Planning		
o Motivating		
resistant case		
identified by HW		
o followup of acceptors		
- post-operation		
- other contraceptives		

02203

COMMUNITY HEALTH CELL
326, V Main, I Block
Koramangala
Bangalore-560034
India

Activity	Time intervals	Duration
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iv) Registration:

births :

deaths :

v) Communicable diseases

Malaria -

Collection of blood smears

Identify cases of notifiable diseases

3. Camps

Family Planning

Eye

Immunization

4. Administering vaccines to disease prone areas

5. AT PHC

Attending to immunization work

6. Interaction with worker at

a) PHC - checking diaries
- problem solving

b) field - advice
- guidance

7. Providing health education

o individually
o group meeting

8. Interaction with community leaders

9. Maintaining records, diaries etc.

10. Personal time

11. Time of completion

INDIAN INSTITUTE OF MANAGEMENT, BANGALORE

OBSERVATION SCHEDULE

Junior Health Worker (Male)

Name of the
Health worker:

Date:

Day:

Activity

Time intervals

Duration

1. Travelling
 - a) From residence to village () kms
 - b) From residence to sub-centre () kms
 - c) From sub-centre to village () kms
2. Personal work/away
3. Malaria
 - a) Identify fever cases
 - b) Collect blood smears
 - c) Administer presumptive treatment
 - d) Health education
 - e) Recording
4. Communicable diseases
 - a) Identify cases of notifiable diseases
 - b) Enforce control measures
 - c) Health education
 - d) Recording
5. Environmental sanitation
 - a) Chlorination of public water sources
 - b) Assist in construction of soakage pits, kitchen gardening, etc.
 - c) Health education
 - d) Recording

Activity	Time intervals	Duration
6. Immunization		
a) Administer BCG vaccination (new born)		
b) Administer DPT vaccination (0-1 year)		
c) Administer oral Poliomyelitis (0-1 year)		
d) Assist the Sr.H.A in school immunization programme		
e) Health education		
f) Recording		
7. Family Planning		
a) Register the eligible couple for family planning programme		
b) Motivating couples		
c) Distribution of contraceptives		
d) Refer cases to PHC		
8. MCH		
a) Identify and refer women with abnormal pregnancy to the Health Worker (F)		
b) Administer TT for pregnant women		
c) M.T.P		
d) Health Education		
e) Recording		
9. Collection of vital events		
a) Birth registration		
b) Death registration		
c) Health education		
10. Nutrition		
a) Identify malnutrition among infants and children below 5 years		
b) Distribution of iron and folic acid to children		

Activity	Time intervals	Duration
c) Administer Vit.A solution to children from 1-5 yrs		
11. Primary Medical Care		
a) Treatment for minor ailments		
b) Providing first aid for accidents/emergencies		
c) Health education		
d) Recording		
12. Interaction with Community Health Volunteers		
a) Check of their work		
b) Problem solving discussion		
c) Receive support		
d) Provide training		
e) Supply drugs etc.		
13. Team activities		
a) Participate in staff meeting at PHC		
b) Interact with HW (M/F) and other staff		
c) Interact with Sr. HA (M/F)		
d) Interact with community leaders etc.		
e) Assist in camps		
14. Maintenance of records and registers		
a) Registers		
b) Diaries		
c) Reports/Returns		

Time of completion of work:

Name of observer :

Initials :

INDIAN INSTITUTE OF MANAGEMENT, BANGALORE

OBSERVATION SCHEDULE

Junior Health Worker (Female)

Name of the
Health worker:

Dt:

Day

Activity

Time intervals

Duration

1. Travelling from
 - a) residence to village kms:
 - b) residence to sub-centre kms:
2. Personal work/away
3. MCH
 - a) ANC registration
 - b) PNC registration
 - c) Conducting deliveries
 - d) Supervise deliveries conducted by the Dais.
 - e) Refer difficult labour cases to PHC/Hospital
 - f) Post-natal visits
 - g) 0-1 year registration
 - h) TT for pregnant mothers
 - i) FS distribution
 - j) Health education
4. Family Planning
 - a) Register the eligible couple for family planning programme
 - b) Motivation
 - c) Group meeting
 - d) Distribution of contraceptives
5. Nutrition
 - a) Identify malnutrition among infants and children below 5 years
 - b) Distribution of iron and folic acid to children
 - c) Administer Vit.A solution to children from 1-5 years

Activity	Time intervals	Duration
6. Immunization		
a) BCG vaccination (new born)		
b) DPT vaccination		
c) Administer oral poliomyelitis		
d) Health Education		
e) Recording		
7. Vital events		
a) Registration - births		
b) Registration - deaths		
c) Health education		
8. Communicable diseases		
a) Identify the cases and notify the HW (M)		
b) Enforce control measures		
c) Health Education		
d) Recording		
9. Primary Medical Care		
a) Treatment for minor ailments		
b) Provider's first aid for accidents/emergencies		
c) Health education		
d) Recording		
10. Interaction with Community Health Volunteers		
a) Check of their work		
b) Problem solving discussion		
c) Receive support		
d) Provide training		
e) Supply drugs etc.		
11. Interaction with Dais (Other than deliveries)		
a)		
b)		
c)		
d)		

Activity	Time intervals	Duration
----------	----------------	----------

12. Team activities

- a) Participate in staff meeting at PHC
- b) Interact with H.W (M/F) and other staff
- c) Interact with Sr. H.W (M/F)
- d) Interact with community leaders etc.
- e) Assist in camps

13. Maintenance of records and diaries

- a) Registration of ANC
- b) 0 - 1 yr registration
- c) Monthly reports
- d) Maternity records

Time of completion of work:

Name of observer :

Initials :

INDIAN INSTITUTE OF MANAGEMENT, BANGALOREPHC, KUNJWork Sampling Schedule
(Medical Officer)

Category :

Date : Day:

ActivityTime Record

1. Attending to the out-patients (clinical) *Type of case

Diagnosis

2. Attending to family planning cases

- a) Tubectomy
b) Vasectomy
c) IUD
d) OP
e) Condom
f) Other

3. Supervising staff

- a) Checking/reviewing diaries
b) Interaction for problem solving
c) Making rounds
d) providing on the job training

4. Administrative

- a) Correspondence - receiving/sending
b) Planning of activities
c) Preparation of reports/returns/registers

Activity

Time Record

-
5. Away from HQ
 - a) Visiting the sub-centre
 (specify the sub-centre)
 - b) Visiting other officers
 related to work
 - c) Personal
 - d) School visits
 - e) Attending campus
 (specify the nature of
 the camps)
 6. Attending meeting
 - a) inside
 - b) outside
 7. Completion of work at PHC
-

*Type of patient:

A1	:	Child under 1
A2	:	Child between 1 - 5
A3	:	Child between 6 - 15
B	:	Male adult
C1	:	Female - Gen
C2	:	Female - AN/PN
D	:	Over 60

INDIAN INSTITUTE OF MANAGEMENT, BANGALORE

WORK SAMPLING

Date: Day: Time:

Activity	Category of PHC Staff					*Record Details
	Pharmacist	PMW	Jr.H.W	Group D		
				1	2	
1. Dispensing drugs						
2. Assisting MO/LMO*						
3. Away for official work						
4. Record maintenance						
5. Collect blood smears						
6. Certificate work						
7. Cleaning the premises						
8. Dressing wounds						

Activity	Category of PHC Staff					*Record Details	
	Pharmacist	PMW	Jr.H.W	Group D			
				1	2		3

9. Absent

10. Away on
personal
work

11. Rest/idle

12. Socialization/
coffee

- 1. Puttanna
- 2. Nataraj
- 3. S Lakshmi

INDIAN INSTITUTE OF MANAGEMENT, BANGALOREINTERVIEW SCHEDULEJunior Health Assistant

- I. 1. Name of the unit :
 2. Name of the worker :
 3. Name of the sub-centre assigned :

Villages covered under the subcentre

- a)
 b)
 c)
 d)

4. Distance travelled from:

- a) Residence to the PHC . . . kms
 b) Residence to the SC
 Headquarters . . . kms
 c) Residence to the SC
 village (specify) . . . kms
 d) PHC to the SC village . . . kms
 e) Village to village . . . kms

5. Average time spent on travelling from:

- a) Residence to the PHC . . . mts
 b) Residence to the SC
 village . . . mts

6. Mode of travel :
 Bus/Cycle/Two wheeler/Walk

- II. 1.a) What according to you, are the objectives of the PHC to be pursued?

b) Rank them in order of importance as you perceive.

Sl. No.	Objectives	Rank (in order of importance)
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2. What is your role in achieving these objectives?

3. a) What are the various functions you are required to perform at the PHC and the SC area you are assigned?

b) Indicate the importance you feel about each function.

c) Indicate the importance your supervisors assigns to each function.

Function	Your importance			Supervisor's importance		
	NI	IM	VI	NI	IM	NI

At PHC

At SC area

4. What percentage of the working hours is usually spent on the various activities?

Activities :	Percent of time:

A. MCH

ANC Registration
PNC Registration
ANC Visits
PNC Visits
0 - 1 year Registration
TT for ANC
Distribution of iron tablets
Health education

B. Family Planning

Registration of eligible couples
Motivation
Distribution of contraceptives
Followup visits and treatment
Health education

C. Immunization

BCG
DPT & Polio
DT
Measles
School immunization
Health Education

D. Nutrition

Administering Vit.A solution
Health education

E. Control of communicable diseases

Malaria - Identify fever
cases and collection of
blood smears
enforce control measures

Others - Identification
control measures

Health education

F. Registration of vital events

Births

Deaths

Health education

G. Environmental sanitationH. Primary Health Care

Treatment of minor ailments

First aid

Health education

I. Team activities

Participation in staff meetings

Interaction with other

Jr. HA(M) or (F)

Interaction with Sr. HA(M/F)

J. Record MaintenancesK. Others (specify)

5. How do you think superiors evaluate your work in terms of each function listed?

Sl.No.	Function	Supervisor's mode of evaluation
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<u>At PHC</u>	1.	
	2.	
	3.	
	4.	

<u>At SC area</u>	1.	
	2.	
	3.	
	4.	
	5.	
	6.	

6.a) Are you given any performance targets? Yes/No

b) If yes, specify the programme and targets for the current year and month.

Programme	Target	
	1991-92	July 1991

c) How were these targets fixed?

d) What are your opinions about these targets?

7. How many villages do you visit per week? _____

8. How do you involve the community?

9. How do you rate the community participation/beneficiary participation in the health activities?

High : Moderate: Low:

10. How can the level of community participation be raised?

11. What according to you do the community/beneficiaries perceive as the most important needs for which they need your help?

12. How satisfied are you with your ability to meet these needs?

13. Do you have a written job description or manual?

Yes/No

If no, how are you made aware of your job responsibilities?

14.a. How much do you like your job?

Very much: Like it:

Do not like it:

b. Reasons for not liking:

15. How bothered are you with the following conditions of your work?

Sl.No.	Condition	Botheration		
		Not at all	Some times	Always
1.	Lack of adequate authority			
2.	Lack of promotional opportunities			
3.	Toomuch of work to perform			
4.	Conflicting orders			
5.	Inadequacy of training			
6.	Feeling of rejection by people			
7.	Ignorance of superior's expectations			
8.	Compulsions to do things you feel unwise to do			
9.	Work load interference with - quality of work - family life			
10.	Pressure for improving your performance			
11.	Intereference of local politics			
12.	Ineffective organizational communication			

16. Are you satisfied or not satisfied with the following conditions of work? Rank them according to the importance you attach.

Sl. No.	Condition	Satisfied	Dis-satisfied	Indif-ferent	Rank (in order of importance)
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- a. Training
- b. Incentives/rewards/prizes
- c. Recognition of good work
- d. Public criticism of poor work
- e. Promotional opportunities
- f. Salary and allowances
- g. Nature of the work
- h. Level of supervision
- i. Responsibility
- j. Authority
- k. Job security

17.a. Is there any prescribed pattern for field work?

Yes/No

If yes, a detailed explanation of the pattern.

b. How closely do you follow it?

Strictly:

Closely:

I do what I feel best:

18.a. Your immediate supervisor:

b. List the other officials who directly supervise your work:

- 1.
- 2.
- 3.

19. How much freedom do you have to discharge your duties in the way you feel best?

Very much:

Little:

None :

20. How frequent is your meeting with your superior?
What aspects are discussed in such meetings?

At PHC

Aspects discussed

Once a week :

Once a month :

Rare :

In the field

Once a fortnight :

Once a month :

Rare :

21. How do you rate the interactions with your superior during such meetings?

Highly satisfactory :

Satisfactory :

Not satisfactory :

22. How do you rate your superior's understanding of your problems?

High : Moderate : Low :

23. How do you rate the guidance (if any) you receive from your superior?

Excellent : Moderate :

Good : Poor :

24. How will you describe your supervisor?

a) Supervisor impresses on the need to achieve high output/achieve the target set.

b) Takes good care of us, and believe we will do our best.

c) He is indifferent.

25. How free do you feel in communicating with your supervisor?

Quite free : Free : Not free:

26. How frequently do you yourself communicate with your supervisor?

Once a week:

Once a month:

Very rare:

27. What typically is discussed during such communications?
(Illustrate)

28. How frequently does your supervisor communicate with you?

Almost daily :

Once a week :

Less often :

Seldom :

29. What is typically, the contents of such communications? (Give examples)

30. Does your supervisor usually express satisfaction with your work when done well?

Yes/No

31. Does your supervisor usually express dissatisfaction with your work when not done well?

Yes/No

32. What does your supervisor emphasize?

a) Achieving targets:

b) Appropriateness of approach:

c) Both of these:

d) None:

33. Did you face any difficulties in performing your role?

Yes/No

If yes, specify.

Sl.No.	Difficulties	Measures to solve
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34. What is the extent of support you received from your superiors in your effort to solve them?

Adequate :

Fairly adequate :

Inadequate :

No support :

35. How is your interaction with your counterpart regarding work related problems?

Excellent:

Good :

Satisfactory:

Poor :

36. What according to you, are the constraints for successful implementation of programme?

37. Suggest remedial measures for removing such constraints.
